

L 29.79/3:G 76 t/draft

Clemson University



3 1604 019 774 910

# development concept plan environmental assessment

PUBLIC DOCUMENTS  
DEPOSITORY ITEM

SEP 22 1988


CLEMSON  
LIBRARY

## GRAND TETON

COLTER BAY VILLAGE / JACKSON LAKE LODGE

NATIONAL PARK / WYOMING





Digitized by the Internet Archive  
in 2012 with funding from  
LYRASIS Members and Sloan Foundation

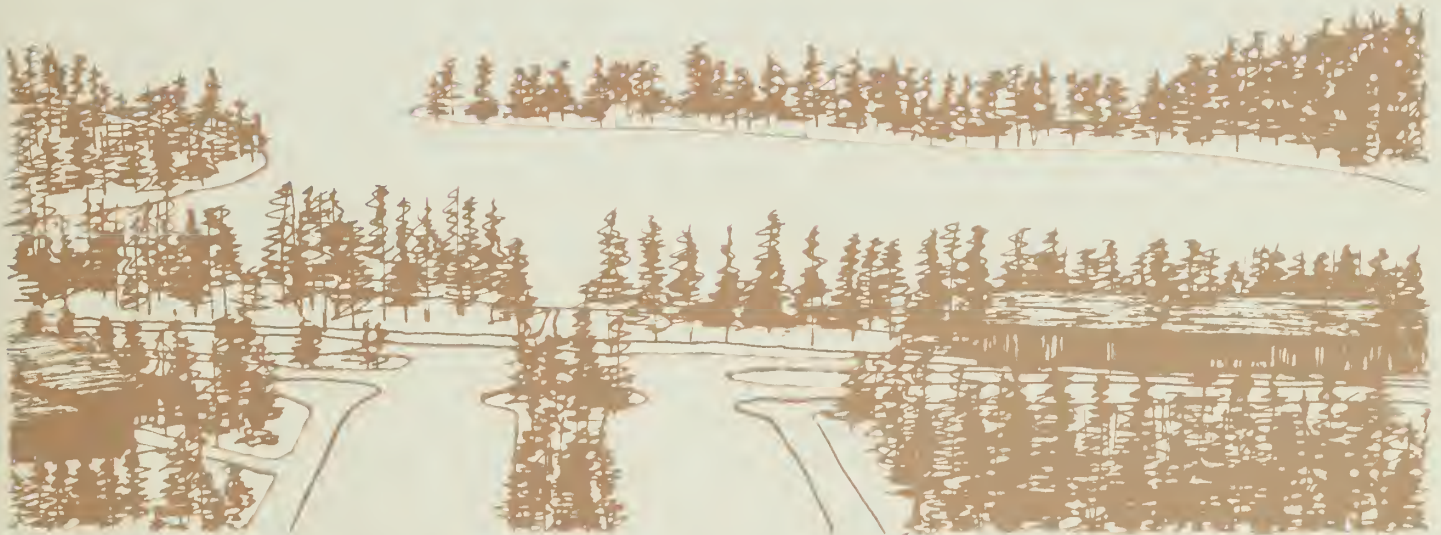
<http://archive.org/details/developmentconce00teton>

DEVELOPMENT CONCEPT PLAN/ENVIRONMENTAL ASSESSMENT

Colter Bay Village/Jackson Lake Lodge  
Grand Teton National Park



Draft  
July 1988



U.S. Department of the Interior/National Park Service



## CONTENTS

<b>INTRODUCTION</b>	1
Purpose/Need	1
Problems and Issues	8
Winter Use	8
Circulation/Roads/Parking	8
Lodging	8
Food Service	8
Marina/Boat Trailer Storage	8
Service Stations	11
Horse Corrals	11
Concession Storage/Merchandise Space	11
Campgrounds	12
Ranger Office/Fire Station	12
National Park Service Employee Housing	12
Concession Employee Housing	12
Maintenance	12
Utilities	12
Management Objectives	13
 <b>DESCRIPTION OF THE AREA</b>	19
Natural Resources	19
Geographic Setting	19
Water Resources	19
Air Quality	20
Soils	20
Vegetation	21
Wildlife	21
Threatened and Endangered Species	22
Cultural Resources	23
Archeological Resources	23
Historic Resources	23
Visitor Use	24
Existing Development	25
Colter Bay Village	25
Jackson Lake Lodge	26
Utilities	26
Water System	26
Wastewater System	27
 <b>PROPOSAL</b>	29
Visitor Experience/Activities	29
Circulation and Parking	29
Lodging	30
Food Service	36
Marina/Boat Trailer Storage	36
Service Stations	36
Horse Corrals	37
Concession Merchandising/Storage/Maintenance	37
Campgrounds	37
Ranger Office/Fire Station	38
Housing Areas	38

Maintenance Area	39	
Utilities	39	
Basic Needs	39	
Additional Utilities	40	
Implementation Costs and Priorities		42
<b>ALTERNATIVES</b>	45	
Alternative A - Reduce Facilities		45
Alternative B - No Action	46	
Alternative C - Year-Round Operation		46
Facilities	46	
Utilities	59	
Alternatives Considered But Rejected		60
<b>ENVIRONMENTAL CONSEQUENCES</b>	65	
Proposal	65	
Natural Environment	65	
Cultural Resources	67	
Visitor Use/Socioeconomic Environment		67
Alternative A - Reduce Facilities		69
Natural Environment	69	
Cultural Environment	70	
Visitor Use/Socioeconomic Environment		70
Alternative B - No Action	71	
Natural Environment	71	
Cultural Environment	72	
Visitor Use/Socioeconomic Environment		73
Alternative C - Year-Round Operation		74
Natural Environment	74	
Cultural Environment	75	
Visitor Use/Socioeconomic Environment		75
CONSULTATION	79	
<b>SELECTED REFERENCES</b>	81	
<b>PLANNING TEAM</b>	83	
Core Team	83	
Consultants	83	
<b>APPENDIX A: COLTER BAY ARCHITECTURAL GUIDELINES</b>		85
Site	85	
Mass	85	
Rhythm	85	
Texture	86	
Color	86	
<b>APPENDIX B: DEVELOPMENT COST ESTIMATE DETAILS</b>		87

## MAPS

Vicinity	2
Existing Conditions	3-7
Colter Bay Site Analysis	9
Proposal	31-35
Alternative A	47-51
Alternative C	53-57

## TABLES

Table 1: Cost Estimate Summary	43
Table 2: Colter Bay/Jackson Lake Lodge DCP Alternatives	61-63





## INTRODUCTION

Colter Bay Village is on Jackson Lake's eastern shore approximately 28 miles north of Grand Teton National Park (GRTE) headquarters at Moose, and 11 miles south of the park's northern boundary (see Vicinity map). National Park Service (NPS) facilities include a visitor center with museum and ranger station, an amphitheater, campground, picnic area, boat ramp, trails, maintenance area, and employee housing area. Grand Teton Lodge Company (concessioner) facilities include log cabins, tent cabins, an RV campground (trailer park), a restaurant/grill, general store/snack bar/gift shop, ice house, launderette, post office, marina (temporarily relocated), two service stations (one with a convenience store), horse corral, maintenance area, and employee housing area (see Existing Conditions maps, sheets 1, 2, and 3).

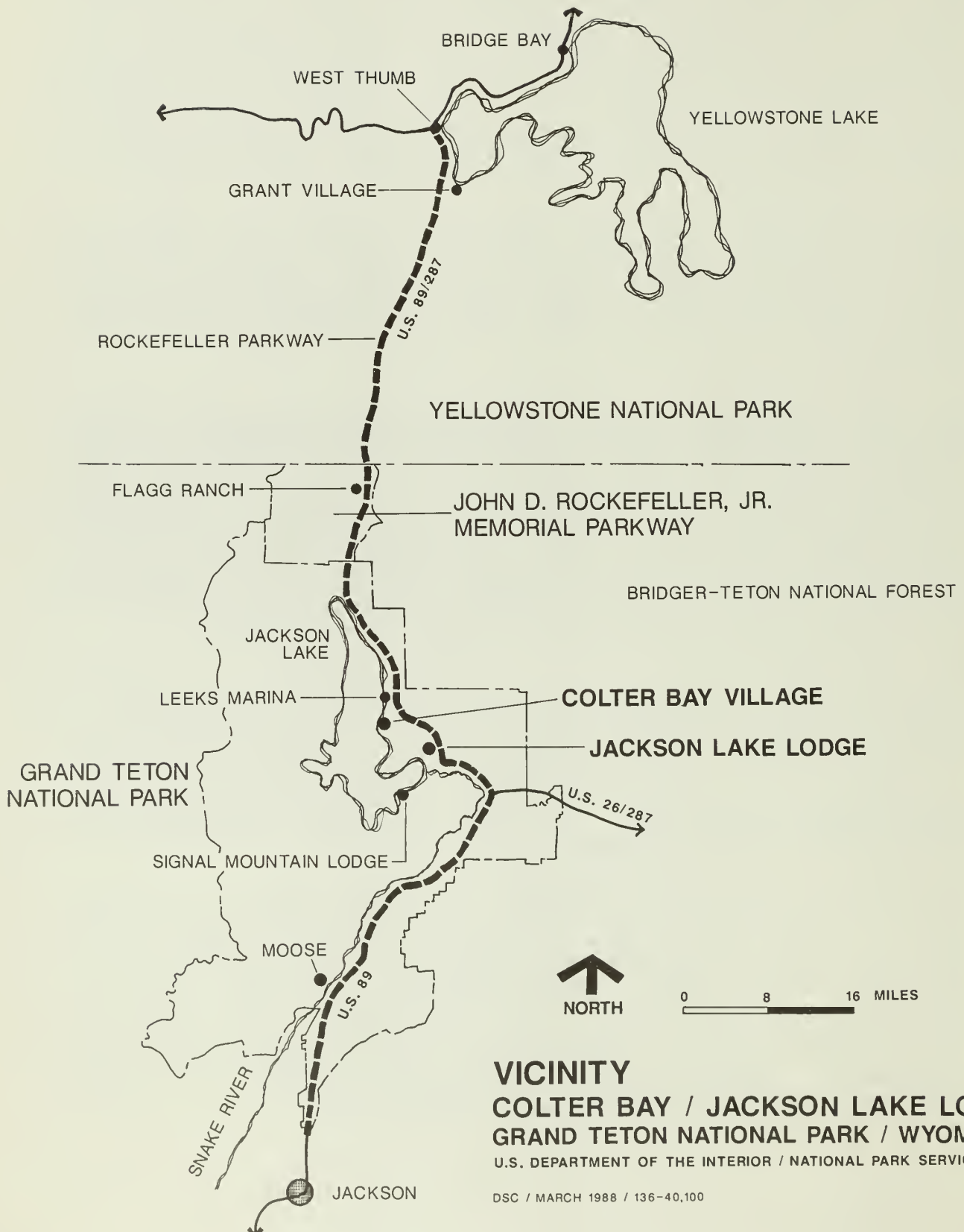
Jackson Lake Lodge is a major developed area about 5 miles southeast of Colter Bay Village. Grand Teton Lodge Company also operates Jackson Lake Lodge, and the area shares utilities with Colter Bay. Concession facilities include a hotel/motel with gift shops, a bar, restaurants, a swimming pool, service station, horse corral, medical clinic, and an employee housing area.

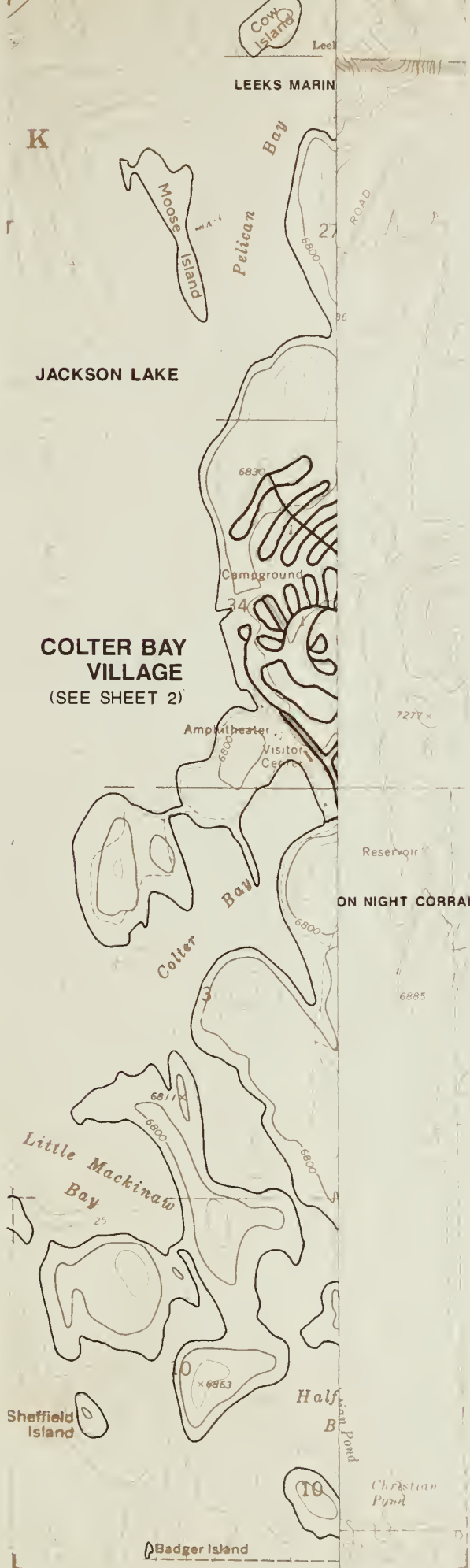
### PURPOSE/NEED

This draft Development Concept Plan/Environmental Assessment (DCP/EA) identifies problems and issues for Colter Bay Village and Jackson Lake Lodge, presents a proposal and three alternatives for addressing identified issues, it assesses the environmental consequences of each alternative, and serves as the primary vehicle for soliciting public involvement in the planning process. If, based on review of the DCP/EA and the results of the public review process, the regional director concludes that the DCP will result in significant impacts on the human environment, then the project would include preparation of a draft and final environmental impact statement (EIS). If not, a finding of no significant impact (FONSI) will be prepared.

This DCP/EA also serves as the "biological assessment" for informal endangered species consultation with the Fish and Wildlife Service (FWS). It is also being used for cultural resource consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation. After either the EIS or FONSI is completed, a final DCP will be prepared. This document is consistent with the direction established in the Grand Teton National Park Master Plan (NPS 1976) and the John D. Rockefeller, Jr. Memorial Parkway General Management Plan (NPS 1980).

Colter Bay is a product of the Mission 66 program, conceived in the late 1950s and completed in the early 1960s. A new development plan is needed because in recent years the area has seen increasing use, changing visitor needs, and new concession facility proposals. The general functional organization inhibits visitor circulation and reduces enjoyment of the area. Some facilities are overused and/or deteriorated, while others are underutilized. The entire area needs to be reevaluated to determine the desired visitor experience, appropriate uses, facility capacities, functional relationships, upgrading needs, and possible reduction of adverse environmental impacts (see Colter Bay Site Analysis map).





0 1000 2000 3000 FEET



## EXISTING CONDITIONS

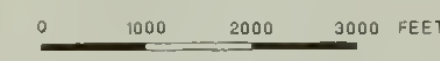
COLTER BAY VILLAGE /  
JACKSON LAKE LODGE

SHEET 1

GRAND TETON NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

DSC / MARCH 1988 / 136-40,101



# EXISTING CONDITIONS

COLTER BAY VILLAGE /  
JACKSON LAKE LODGE

SHEET 1

GRAND TETON NATIONAL PARK  
U.S. DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE  
DSC / MARCH 1988 / 136-40,101



# COLTER BAY

## GRAND TETON NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

OSC / MARCH 1988 / 136-40,101

0 200 400 600 FEET



## EXISTING CONDITIONS

SHEET 2



GRAND TETON NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

05C / MARCH 1954 / 134-40101



## SHEET 2





0 200 400 FEET

## EXISTING CONDITIONS JACKSON LAKE LODGE

SHEET 3

GRAND TETON NATIONAL PARK  
U.S. DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

## PROBLEMS AND ISSUES

When the planning project began, the following issues were identified as the significant development, management, and use problems to be resolved through the planning process. They apply to Colter Bay Village, except where specifically identified for Jackson Lake Lodge.

### Winter Use

The concessioner has proposed to conduct a winter lodging and food service operation at Colter Bay. This would require new winterized utilities and employee housing, and perhaps a new entrance road to the lodging site. This document examines the need for a winter operation and the impact on NPS operations (i.e., staffing, winterized facilities, and maintenance).

### Circulation/Roads/Parking

The large parking area between the Colter Bay grocery store and restaurant carries through traffic to the visitor center, marina, picnic area, and lakefront trails. The area becomes a bottleneck with severe traffic congestion, and numerous accidents have occurred there in recent years. This problem is compounded by a nearby 4-way intersection. A first-time visitor must pass through the entire developed area before receiving information/orientation services at the visitor center. The major parking area's T-shape design increases orientation difficulties. At the campground, visitors stack up along the entrance road waiting their turn to register at the entrance station.

### Lodging

The concessioner has proposed to replace the tent cabin village with a more permanent lodging type facility. The tent cabins are difficult to maintain, but are usually full during the peak season. This document considers the lodging options' implications on the range of lodging opportunities in the park, siting considerations, maintenance requirements, utilities, and potential food service needs.

### Food Service

The concessioner operates a food service building with a restaurant, a counter-seat grill, and a bar. A separate take-out snack bar is operated adjacent to the general store. The restaurant is crowded at dinner with occasional long waits for a table. The grill has outlived its 1950s design. Kitchen facilities for both food services are inadequate. The bar is small and the food service office space is lacking. The snack bar is also small and in a congested area.

### Marina/Boat Trailer Storage

The Colter Bay Marina has 40 rental slips, 60 mooring buoys, rental boats, guided fishing trips, Jackson Lake boat tours, fueling services, and a marina store. In 1986 the operation temporarily moved to Pelican Bay while Jackson Lake was lowered for dam repairs. Colter Bay's depth at low-lake levels is inadequate, and it has an aquatic weed problem. The bay's entrance often



**COLTER BAY**  
**GRAND TETON NATIONAL PARK**

U.S. DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

DSC / JUNE 1988 / 136 - 40,167

0 200 400 600 FEET



**SITE ANALYSIS**

Legend



Wetland



Excellent Views

10% Slope or Greater



Vegetation or Forest Edge



Confusing Circulation or Peak Use Congestion

JACKSON LAKE

tion 3  
nsistent  
or

pond

Visit  
• rol  
• int  
• ad  
• re  
• bl  
• tre

Sewage lagoon is highly  
visible from horse trail rides

0 200 400 600 FEET



## SITE ANALYSIS

### Legend

- Wetland
- Excellent Views
- 10% Slope or Greater
- Vegetation or Forest Edge
- Confusing Circulation or Peak Use Conjunction





becomes constricted during normal late summer drawdown periods. The concessioner has expressed a desire to increase the number of slips and reduce the number of mooring sites at Colter Bay. The marina office/tackle shop is too small and poorly designed. The sanitary pumpout station does not work adequately. The marina operation is reevaluated in this study to determine the appropriate type and level of use.

Boat trailers are stored at two locations during normal lake levels. Short-term storage for boat ramp users occurs on a portion of the parking lot near the Colter Bay Marina. The marina parking and circulation is poorly designed to accommodate cars with trailers. Long-term storage for marina slip users occurs in an undefined area near the cabin registration office. The site is not secured, it has a negative impact on the area's resources, and the trailers are a visual intrusion.

### Service Stations

The concessioner operates two service stations at Colter Bay and one at Jackson Lake Lodge. There are circulation problems at the station near the Rockefeller Parkway (U.S. Highway 89). The area becomes congested during busy periods. Existing direct access to the parkway may not be desirable for safety reasons. The second station is about halfway between the parkway and the visitor center. It sells gas and propane, and offers minor auto repair service and a trailer dump station. It is also used by the concessioner for company vehicle maintenance and river raft repair. The parkway station receives over twice the business of each of the other two stations due to its high visibility and convenience to passing motorists. The need for these service stations is analyzed in this document.

### Horse Corrals

The horse corral and trail ride operations at Colter Bay and Jackson Lake Lodge are causing resource problems and visitor use conflicts. Some trails are heavily used for both hiking and horse rides. Horse use increases mud, dust, and manure on the trails, and it may affect wildlife habitat in wetland areas south and west of the developed areas. A major trail ride near Colter Bay passes the sewage lagoons, which detracts from the riding experience. The Jackson Lake Lodge operation is split into a "night" and a "day" corral. The night corral is about 1 mile north of the day corral. This necessitates herding the animals back and forth daily, and it has resulted in a major stock driveway with braided trails. This increases operation costs, stock occasionally get away, and there is an inherent safety hazard with loose-herding the animals. The day corral is near the lodging area causing some odor, dust, and insect problems for guests. The DCP/EA assesses alternatives for resolving these problems.

### Concession Merchandising/Storage/Maintenance

The concessioner's merchandising operation is in Jackson Lake Lodge. The concessioner has identified a need at the lodge for additional space for other office and support functions. The largest single merchandising outlets for the company are at Colter Bay. An existing storage facility at the Colter Bay maintenance area is not large enough to accommodate concession needs.

## Campgrounds

The campground office is used for employee housing, and space in the entrance kiosk is very limited. The entrance area becomes congested during busy periods. The group campground loops were designed for standard family camping and the area is underutilized. Winter camping is currently accommodated at the parking lot near the visitor center.

## Ranger Office/Fire Station

The ranger station in the visitor center is operated year-round and the fire station is inadequate and cannot house all emergency response equipment. Ranger offices are located in several places, and protection vehicles are parked outside or kept in personal use garages during the winter. The need for a separate facility for year-round office space and public contact is assessed in this study.

## National Park Service Employee Housing

The NPS housing area includes a trailer village that is poorly organized and aesthetically unattractive. Trailers are difficult to properly insulate for winter conditions and maintenance costs are generally very high. The appropriate mix of permanent and seasonal housing needs to be determined. This DCP/EA identifies needs for long-term housing, trailer replacements and siting, utilities, and recreational facilities for employees.

## Concession Employee Housing

The concessioner has indicated a need for additional trailer spaces and dormitory housing units at Colter Bay. The existing dorms house more employees than they were designed to accommodate. The employee trailer park was designed to be expanded to the north and utilities were sized to accommodate additional trailers. However, portions of the facility are highly visible from the NPS-operated campground and the site density is very high.

## Maintenance

The concessioner has requested additional storage space at Colter Bay and has also indicated a desire to move the laundry operation outside the park. There is no designed flammable storage facility in the maintenance area. There is limited space for expansion in the maintenance area. This DCP/EA analyzes alternative maintenance area concepts to address NPS and concessioner's needs.

## Utilities

The NPS maintenance area, the service station by the parkway, and the horse corral have separate septic tank sewage disposal systems. The feasibility of connecting these facilities to the sewage system is evaluated in this study. A series of lagoons process the rest of the raw sewage from Colter Bay and Jackson Lake Lodge. Some sewer lines leak and/or are undersized. Water from melting snow and heavy rain infiltrates into some sewer lines, manholes, and lift stations.

Although the utilities were not designed for winter use, some administrative functions have expanded into a year-round operation. Due to shallow water-line depths, freezing and breakage occurs. Even though many lines are drained for winter, freezing occurs in late spring and early fall. Faucets are left open to prevent freezing damage, but this practice is wasteful and unreliable. The Colter Bay water storage reservoir's interior has deteriorated from freeze-thaw cycles that have caused the concrete to spall. The water storage reservoir serving Jackson Lake Lodge does not provide adequate capacity to satisfy basic storage criteria for domestic use and fire flow.

Several major underground power line locations are unknown. Excavation activities sometimes cause power line breaks and related hazards, delays, and disruptions. Several underground vaults with power lines fill with water, primarily from melting snow, causing an unsafe condition. Overhead power lines and poles are visually unattractive. The power outage frequency is far beyond normal, creating numerous delays and inconvenience. This is particularly critical during sub-zero weather conditions when a power outage could create serious problems. The main sewage lift station has an emergency generator but there is no central emergency power system for the area.

Several underground telephone line locations are also unknown. Excavation sometimes causes service interruptions. Overhead telephone lines and poles are visually unattractive.

#### MANAGEMENT OBJECTIVES

Following are objectives that were used to prepare and analyze the development concept proposal and alternatives for Colter Bay Village and Jackson Lake Lodge.

- Provide opportunities for a variety of visitor activities including interpretive, recreational, and service functions.
- Stay within the existing maximum overnight capacities and provide a range of lodging and food service options and prices.
- Improve visitor orientation to the area.
- Encourage pedestrian circulation.
- Reduce traffic congestion and improve visitor safety.
- Maintain and enhance views of Jackson Lake and the Tetons, and minimize visual intrusions.
- Preserve park resources and reduce impacts of existing facilities.
- Reduce maintenance needs.
- Provide a more human scale for parking areas and maintain or enhance the architectural theme for the area.

- Accommodate some future growth in day-use within the physical and resource limits of the site.
- Reduce crowded employee housing conditions and bring needed housing stock up to standard.

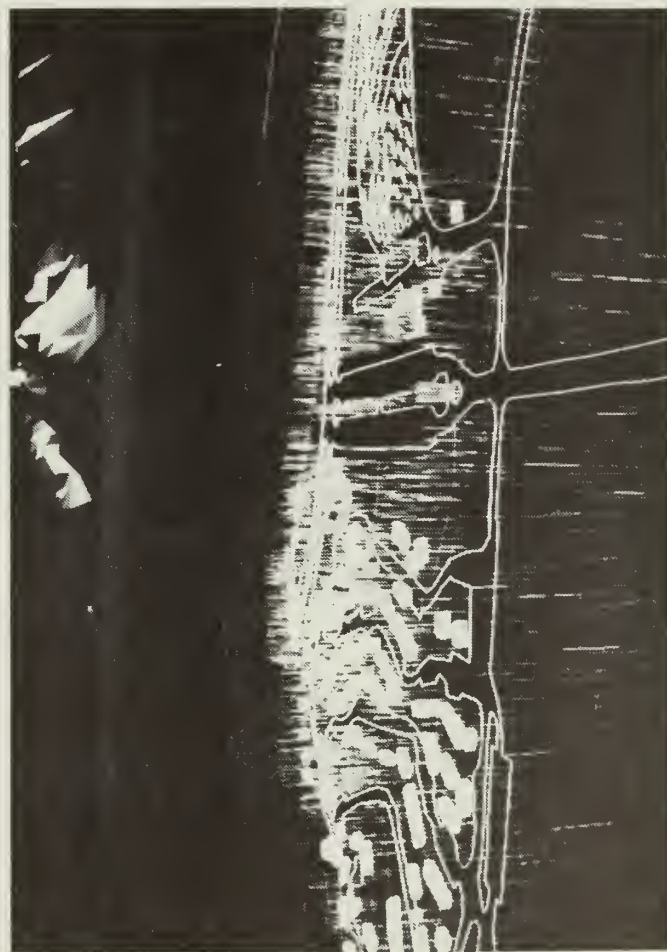




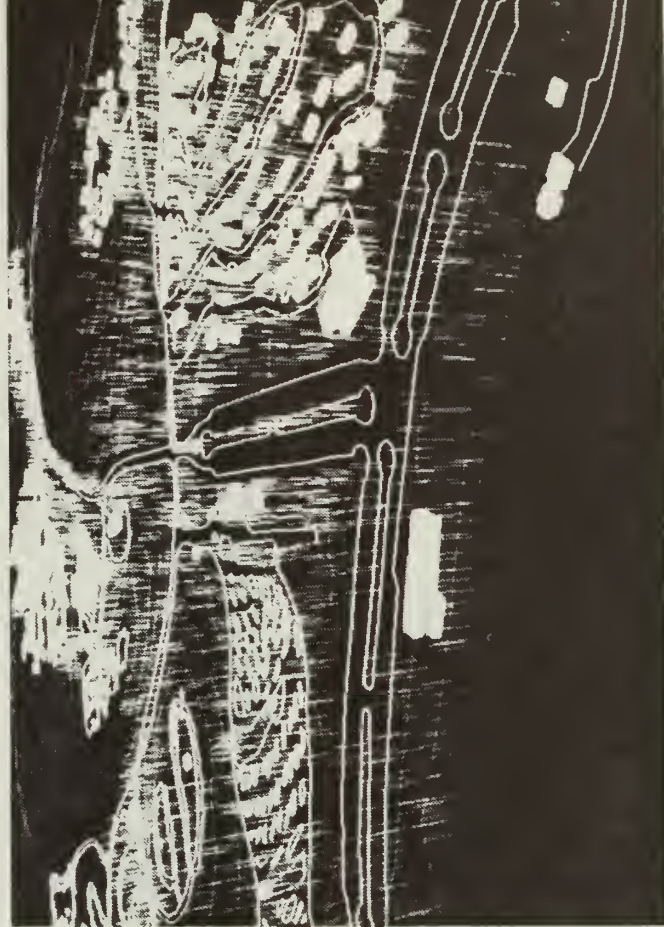
Teton Mountains



Colter Bay visitor center



Computer simulation of existing Colter Bay development



Computer simulation showing existing village parking





Colter Bay fire station



Winter use at Colter Bay



Marina office



Existing storage/merchandise space in Lodge



Maintenance materials storage area





Circulation and parking at Colter Bay store



Colter Bay tent cabins



Colter Bay restaurant building



Long-term boat trailer storage



Concession employee trailer park



Colter Bay maintenance area



## DESCRIPTION OF THE AREA

### NATURAL RESOURCES

#### Geographic Setting

Colter Bay Village and Jackson Lake Lodge are in northern Teton County, Wyoming. The area is accessed by U.S. Highway 89/287, which continues from Grant Teton National Park north through the John D. Rockefeller, Jr. Memorial Parkway into Yellowstone National Park. Rockefeller Parkway, the 82-mile highway (U.S. Highway 89) linking the three parks, extends from West Thumb in Yellowstone to the south boundary of Grand Teton (see Vicinity map). The Bridger-Teton National Forest and Teton Wilderness Area are located just east of Grant Teton National Park.

Grand Teton and Yellowstone National Parks, Bridger-Teton National Forest, and other public land units adjacent to Yellowstone are cooperatively managed as the Greater Yellowstone Ecosystem, a unique area for wildlife preservation and long-term scientific study.

#### Water Resources

Jackson Lake is a prominent water feature in Grant Teton National Park, providing park visitors with water-based recreation opportunities and a scenic foreground for the Teton Mountains. The natural Jackson Lake was enlarged into a reservoir when the Jackson Lake dam was constructed by the Bureau of Reclamation (BUR) in 1916. The maximum designed water surface elevation is 6,769 feet. Due to a concern for earthquake hazards and potential dam failure, the maximum level was restricted to 6,760 feet in 1978 and further reduced to 6,745 in 1984 until the dam is rebuilt, at which time the 6,769-foot elevation will be restored (BUR 1984). A 10- to 12-foot annual surface elevation fluctuation is typical, but it may drop 25 feet or more during unusually dry years (BUR 1987). The dam and reservoir are part of the Minidoka Project, which provides irrigation water storage for downstream agricultural use along the Snake River in Idaho. The 100- and 500-year floods can be controlled to not exceed the maximum water surface elevation of 6,769 feet (BUR 1987).

Colter Bay Village is adjacent to Colter Bay, an embayment on the east shore of Jackson Lake that forms a sheltered harbor. There are numerous unnamed and named ponds east and south of the village such as Swan Lake and Heron and Cygnet Ponds. Most are bordered by emergent wetlands. The developed areas are on well-drained upland slopes above these ponds and wetlands.

Between Colter Bay and Jackson Lake Lodge is Willow Flats, a low-lying area traversed by several low-gradient spring creeks and Pilgrim Creek. The area contains numerous riparian wetlands supporting willows and emergent herbaceous vegetation interspersed with floodplain forest. This biologically productive habitat supports a diverse number of birds and mammals. A significant portion of wetlands found in Grant Teton National Park is found there.

Pilgrim Creek begins in the Teton Wilderness, flows through the park and continues across Willow Flats into Jackson Lake. Pilgrim Creek has an



unstable channel for most of its length in the park due to a high bed load, resulting in a braided floodplain covered with boulders, cobbles, and gravel. The 500-year floodplain is well removed from both Colter Bay and Jackson Lake Lodge, is not affected by either development, and poses no threat to developments other than U.S. Highway 89. The lower 1 to 2 miles of Pilgrim Creek has a more stable channel with adjacent wetlands.

Jackson Lake Lodge occupies an upland bench on the east edge of Willow Flats, which provides a scenic foreground for the Teton Mountains. An old roadbed, predating the existing park road, passes below and immediately west of the lodge traversing Willow Flats and Pilgrim Creek to the northwest. The roadbed and bridge across Pilgrim Creek are used by horseback riding parties on excursions from the lodge to a picnic site where chuck-wagon style meals are served.

Christian Pond, which is east of the lodge across the parkway, has associated wetlands along portions of its shoreline. Christian Creek also has adjacent willow and sedge-meadow wetlands. This area provides productive waterfowl and moose habitat. Farther east in upland forest is Emma Matilda Lake. The area east of the main road is accessible by trail and is popular for hiking and horseback riding from the lodge due to the varied terrain, vegetation types, and waterfowl and mammals using the wetlands.

The Snake River is approximately 1 mile south of the lodge, flowing east from Jackson Lake. The river and riparian area is unaffected by the lodge development, but does provide an attraction to visitors.

#### Air Quality

Grant Teton National Park has near pristine air quality as defined in the Clean Air Act. It is a mandatory Class I area, where air quality degradation is not acceptable. Visible regional haze does occur in Jackson Hole, and to some extent, this portion of the park. Daily visibility measurements are taken at a monitoring station 1 mile north of park headquarters at Moose. Suspended particulates are monitored by the Wyoming Department of Air Quality at the Teton Science School near Kelly, Wyoming.

#### Soils

Pleistocene glaciers underwent several cycles of advance and retreat in the park area, directly or indirectly modifying the valley floor terrain and soils. The glaciers gouged basins, such as the one now occupied by Jackson Lake, and deposited undulating moraines during their recession. As the glaciers retreated, melt-water outwash streams further modified the landscape by transporting glacial debris and redepositing alluvial material. The area between Colter Bay and Jackson Lake Lodge is a mosaic of soil and drainage types, which also contributes to the ecological diversity and scenic interest of the area. Soils from moraine deposition generally have a higher fine particle content and greater moisture retention. They generally underlie the forested areas of the valley floor in Grant Teton National Park. Small basins, or kettles, left in the moraine deposits form pothole ponds and wetlands such as Swan Lake and Christian Pond. Stream deposited glacial outwash material has a lower fine particle content than moraine material, with resulting increased permeability. These well-drained soils have less

water retention capability than moraine derived soils, and generally underlie the shrub-grassland sagebrush flats in the valley floor.

### Vegetation

Vegetation types vary somewhat between Colter Bay and Jackson Lake Lodge due to differing soil and drainage regimes. In general, the vegetation is typical of the central Rocky Mountain subalpine regions. Upland forests on moraine derived soil are lodgepole pine succeeding to subalpine fir. Drier sites have an understory of grouse whortleberry, elk sedge, fescue, and kinnikinnick. Sites with more soil moisture may have an understory of bluejoint reedgrass. Upland meadows are usually underlain by well-drained gravelly alluvial soils that support big and low sagebrush, balsam root, gilia, lupine, and Idaho fescue.

There are several wetland types in the area. The floodplain forest along Pilgrim Creek supports narrow-leaf cottonwood, blue spruce, and willow with an understory of bluejoint reedgrass, tufted hairgrass, Nebraska sedge, and shrubby cinquefoil. Shrub-scrub wetlands adjacent to springs, ponds, and slow moving streams have abundant willows, and they grade into emergent wetlands with rushes and cattails. Wet meadows have various grasses and sedges.

Exotic nuisance vegetation occurs along roadsides and other disturbed sites and is an increasing concern in the park. Spotted knapweed, musk and Canada thistle, butter and eggs, and cheatgrass are adept at colonizing disturbed dry sites, out-competing native vegetation, and in some cases, spreading out into undisturbed native vegetation. While this seems to be more prevalent in other parts of the park, it is a concern at all construction sites.

### Wildlife

The Jackson Lake sport fishery is a visitor attraction in the area. Lake trout, introduced in 1890, are the dominant game fish. The native Snake River cutthroat trout now occupies a secondary position. Non-game fish include Utah suckers, Utah chubs, and reidside shiners.

Canada goose, mallard, teal, Barrow's goldeneye, common merganser, trumpeter swan, and sandhill crane are commonly seen water birds at the pothole ponds, Jackson Lake, and Willow Flats. Swan populations in the Greater Yellowstone Ecosystem seem to be declining (Shea 1979), and they are given special management consideration by federal and state land management personnel in the area.

Other common birds in the area are red-tailed hawk, Cooper's hawk, gray jay, raven, barn swallow, mountain bluebird, and mountain chickadee. Osprey nests are periodically found along Jackson Lake's east shore, north and south of Colter Bay; however, nests are frequently destroyed by high winds blowing across the lake.

Mammals commonly found in the project area are deer mouse, Uinta ground squirrel, snowshoe hare, porcupine, beaver, skunk, bats, coyote, elk, mule deer, moose, and black bear. Pronghorn and bison occasionally use the area.

Part of the Jackson Hole elk herd passes through the area during spring and fall migrations between the summer range in the highlands to the northeast and the winter range on the National Elk Refuge near Jackson. Some elk spend the summer and fall in the project area, and the forested Emma Matilda-Two Ocean Lakes area is spring calving habitat.

Moose are frequently seen in the excellent wetland habitat near the developed areas. The Willow Flats/Hermitage Point area is important winter range for resident populations and for moose that move in from the summer range on the adjacent national forest. About 150 moose over-winter in that area.

### Threatened and Endangered Species

Four species listed by the FWS and protected by the Endangered Species Act of 1973 occur in this general area of the park: (1) the endangered bald eagle (Haliaeetus leucocephalus), (2) the endangered peregrine falcon (Falco peregrinus), (3) the endangered whooping crane (Grus americana), and (4) the threatened grizzly bear (Ursus arctos horribilis).

Several bald eagle pairs nest along Jackson Lake, with the nearest nest approximately 2 miles from Colter Bay and Jackson Lake Lodge. Areas within a 0.5 mile radius of nests are posted closed to visitor entry. As many as 15 spring and fall migrants at a time also use the lake area. Willow Flats and the adjacent portion of Jackson Lake are important foraging areas. The developed areas are not used by the eagles.

Peregrine falcons do not nest in the project area, although waterfowl populations in the Willow Flats area may be a source of prey. Attempts have been made to introduce nesting pairs on the west side of Jackson Lake.

Individual whooping cranes from the Grays Lake, Idaho, population have been observed foraging in the Willow Flats area. Sandhill cranes nest in this area, and any sandhill crane nesting habitat is considered as potential whooping crane nesting habitat by the FWS because the birds nest together elsewhere.

Grizzly bear are periodically observed in or near the developed areas, usually east of U.S. Highway 89. They are generally passing through during spring and fall migration, although they may establish territories. The Interagency Grizzly Bear Committee (IGBC) oversees management of the species in the Greater Yellowstone Ecosystem which encompasses Yellowstone and Grand Teton National Parks, adjacent national forests, and other lands in the area. The Grizzly Bear Recovery Plan was approved and published by the committee in 1982 for conservation of the species in the conterminous U.S. (FWS, 1982). The Interagency Grizzly Bear Guidelines, approved and published by the committee in 1986, identifies land uses and actions appropriate for species conservation (IGBC, 1986). Public lands with suitable habitat are classified into various "management situations." Management situation number 1 areas are the highest priority for survival of the species, with the greatest restrictions on human use. Management situation number 2 areas have somewhat lower quality habitat values and fewer restrictions on human use. Management situation number 3 areas include recreational developments and the adjacent area within 250 yards, where free ranging grizzlies are not tolerated.



The area east of U.S. Highway 89 and north of Pilgrim Creek is classified as management situation number 1. The area east of U.S. Highway 89 and south of Pilgrim Creek, including the Emma Matilda/Two Ocean lakes area, is classified as management situation number 2. The Willow Flats/Hermitage Point area outside the developed areas is also classified as management situation number 2. The developed areas are classified as management situation number 3.

## CULTURAL RESOURCES

### Archeological Resources

An archeological survey was conducted during reservoir drawdown for dam repair (Connor, et al., 1987). Survey evidence indicates that shoreline areas above the natural level of Jackson Lake were used seasonally by paleo-Indians for over a 10,000-year period from the end of the last glaciation until approximately 1600 A.D. Most sites are now below the full pool elevation of the reservoir. Seasonal camps were set up for harvesting and drying plants from the rich meadows and for hunting and fishing. Indian use of the valley after 1600 decreased and became sporadic. Two archeological sites were found below the high water level in Colter Bay (Connor, et al., 1987). They are not affected by the marina or other structures in the area.

An archeological "intensive surface survey" was performed in and around the Colter Bay and Jackson Lake Lodge developments in 1973. No cultural material was found (Wright, 1973). The area north of the Colter Bay horse corral, considered below for an employee trailer park, was outside of the intensive survey area, but was covered by a reconnaissance survey. There are no known sites within this area, but a more detailed investigation would be required before construction.

### Historic Resources

The Colter Bay and Jackson Lake Lodge developments were constructed in the late 1950s/early 1960s as part of Mission 66, an extensive nationwide park facility development program. Colter Bay has many old log cabins used for overnight guest accommodations. Some cabins may date back to 1900, but all were moved onto the site from other locations around the valley and altered for the intended use. As such, the historic context of the cabins has been lost and information on the age and origin of each structure is lacking. Therefore, the cabins are not considered eligible for nomination to the National Register of Historic Places. None of the modern buildings at Colter Bay are considered eligible (Gregory Kendrick, Rocky Mountain Regional Office (RMRO), personal communication).

The Jackson Lake Lodge complex is less than 50 years old and would not normally be considered significant. However, the architect, Gilbert Stanley Underwood, made lasting contributions to early national park design. In addition to being a distinguished designer of penitentiaries, Mr. Underwood was associated with the Union Pacific Railroad; and he designed the Ahwahnee Hotel in Yosemite, the Zion Lodge, Bryce Canyon Lodge, and North Rim Grand Canyon Lodge. Several buildings at Jackson Lake Lodge are considered eligible for nomination to the National Register of Historic Places (Gregory Kendrick, RMRO, personal communication). These are the main lodge building, the original outlying guest cabins, and the cabana building. They have

historical significance through association with Gilbert Stanley Underwood, and as an outstanding example of a 1950s response to a rustic park environment.

## VISITOR USE

Colter Bay Village and Jackson Lake Lodge provide a range of visitor use activities and services. The primary summer attractions are viewing and photographing the Teton Range, boating and fishing on Jackson Lake and the Snake River, hiking, horseback riding, and viewing wildlife. Extensive interpretive services are provided at Colter Bay including nature walks, evening programs, and a museum housing the David Vernon Indian Arts Collection. Limited interpretive walks and evening programs are offered at Jackson Lake Lodge.

The summer visitor season runs from early June until early September, with the peak use period occurring between July 20 and August 20. The Jackson Lake Lodge, Colter Bay cabins, tent cabins, RV campground, and NPS campground operate at full capacity during this period. Concession and NPS facilities are open from about June 5 until about September 30. A steady trend over the last 10 years has been for increasing travel during the shoulder seasons, late May to early June and early September to late October. Visitor use during this period is weather dependent and highly unpredictable due to possible late spring and early fall snow storms.

Other visitor activity centers in the area include Leek's Marina, which provides marina and food services about 2 miles north of Colter Bay. Flagg Ranch, about 18 miles north in the John D. Rockefeller Jr. Memorial Parkway, provides lodging, camping, a service station, store, horseback riding, and restaurant services. Signal Mountain Lodge, about 5 miles south of Jackson Lake Lodge, provides lodging, a marina, store, service station, and restaurant services. An NPS-operated campground adjoins the lodge area.

Many travelers combine their visit to Grant Teton National Park with a trip to Yellowstone National Park, which is only about 20 miles north of Colter Bay. Yellowstone's south entrance is the most popular entrance in the park. The nearest full-service visitor facility in Yellowstone is Grant Village, about 38 miles north of Colter Bay.

The winter use season occurs from late December through March. The primary winter activity at Colter Bay is ice fishing on Jackson Lake. Snowmobiles and snowplanes are used to reach remote areas on the lake. A small amount of cross-country skiing, snowshoeing, and sight-seeing occurs out of the area. Although Colter Bay Village is used primarily as a parking area for day use on the lake, overnight camping is permitted in the parking lot, and a heated rest room with running water is open at the visitor center. A fee is charged for this camping, and use levels are very low. Winter visitors are largely from Teton County and nearby areas.

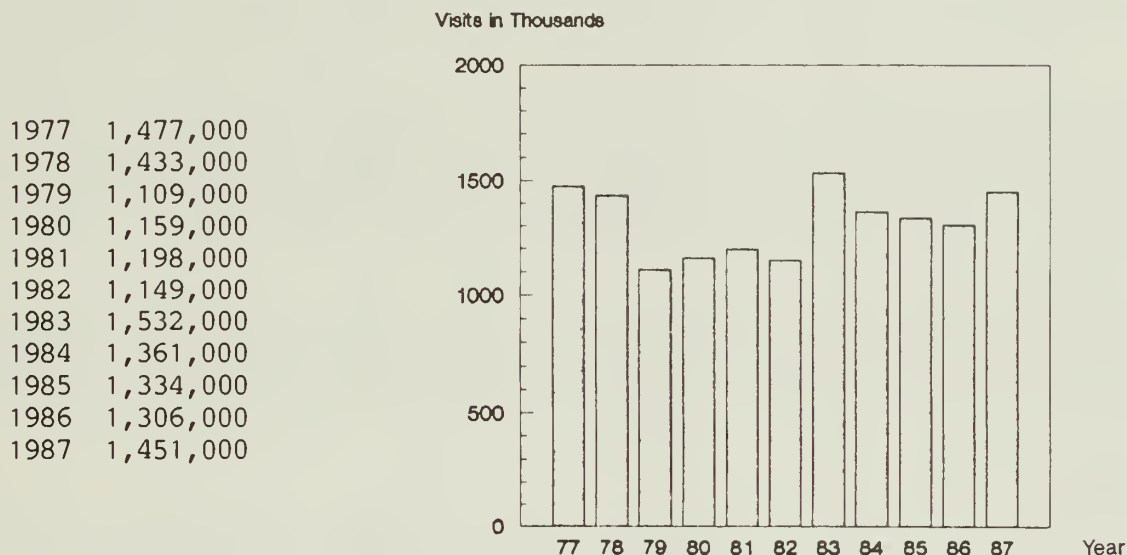
Flagg Ranch in the John D. Rockefeller Jr. Memorial Parkway is near the end of the plowed portion of U.S. Highway 89 in the winter, and it is a major winter use operation and staging area for over-snow trips into Yellowstone National Park. The memorial parkway's General Management Plan (NPS 1980)



includes plans for redevelopment of lodging, restaurant, and other visitor services for winter accommodations at Flagg Ranch.

Grant Teton National Park annual recreation visits for the last 11 years are shown below.

#### Recreation Visits to Grant Teton National Park, 1977-1987



Note: Recreation visits are entries for recreational purposes. They exclude residential traffic, through traffic, and persons traveling on business in the park.

#### EXISTING DEVELOPMENT

##### Colter Bay Village

Access to Colter Bay Village is from the Rockefeller Parkway. The developed area is about 340 acres. As mentioned above, facilities are provided by the NPS and Grand Teton Lodge Company. The NPS operates a 350-site campground, a 12-site group campground, an 800-seat amphitheater, a picnic area, a visitor center with museum and ranger station, a boat ramp, roads, parking areas (450 spaces), walks and trails, water and sewage systems, employee housing, and maintenance facilities.

The Lodge Company operates the following facilities: a 209-unit log cabin area in 95 cabin buildings with a 678-person capacity; a 112-site trailer park with individual utility hookups; 72 canvas/log ("tent") cabins with a 288-person capacity; a 187-seat restaurant, 66-seat grill, an employee cafeteria, and a 41-seat bar; a general store offering groceries, gifts, sporting goods, clothes, and an adjacent snack bar (with 16 outdoor seats); bicycle rental services; an ice house; a post office, a laundrette and bathhouse; two service stations (one full-service station with mechanics bays and a trailer dump station, and one self-service station with a convenience store); a corral with about 65 horses; a maintenance storage building; a marina with tackle shop, motor boat/rowboat/canoe rental, 60 boat mooring buoys and 40 boat slip rental spaces, two scenic cruise boats, and boat fuel

sales; and 5 dormitories and 77 trailer spaces for concession employees. Due to the repair work on Jackson Lake Dam, marina operations have been temporarily relocated to Pelican Bay, 2 miles north of Colter Bay.

### Jackson Lake Lodge

This 78-acre developed area, also operated by the Grand Teton Lodge Company, includes the main lodge with 42 guest rooms, a dining room, a grill, gift shops, a cocktail lounge, apparel shop, beauty shop, conference facilities, and an employee cafeteria. Maintenance, office, laundry, and food handling areas are located in the basement. Nearby are 343 motor-lodge guest rooms, a swimming pool, bicycle rental facility, service station with mechanics bays, medical clinic, and corral with about 75 horses. Residences and dormitories are provided for the concession employees. A telephone company building and tour bus parking are located near the corral, and a night corral is about 1 mile north of the lodge.

The NPS maintains roads, parking areas, walks, trails, and water and sewage systems for the area. Electrical and telephone systems are provided by commercial companies. Additional details on the utility systems are provided below.

### UTILITIES

Utilities at Colter Bay and Jackson Lake Lodge include water, wastewater, electrical, and telephone systems. The NPS provides a potable water supply, treatment, storage and distribution, and wastewater collection, treatment, and disposal. Electrical supply and primary distribution are provided by Lower Valley Power and Light; NPS is responsible for secondary electrical power distribution. Telephone service is provided by Mountain Bell. The electrical and telephone utilities are publicly owned utilities serving the State of Wyoming. Because NPS has total responsibility for the water and wastewater utilities, the emphasis in this document is placed on these utilities. The water and wastewater utilities were originally designed to serve summer use facilities. The Colter Bay maintenance area and portions of the NPS housing area and visitor center are now used year-round, as are part of the housing area and the administrative offices at Jackson Lake Lodge. With the severe winter climate, it is very difficult to keep water and wastewater utilities (that were designed for summer) operating in the winter. Utilities are kept functioning throughout the winter at great cost to the maintenance budget and by the dedication and innovation of the maintenance staff.

### Water System

A potable source water for the two areas is obtained from three cased wells adjacent to Pilgrim Creek, upstream from the parkway. The wells produce a sufficient quantity and quality of water to satisfy demand at both Colter Bay and Jackson Lake Lodge year-round. The pumping equipment has recently been upgraded to improve system reliability.

Because the water source quality is high, the only required treatment is disinfection. This is accomplished in the pump houses at the wells by adding chlorine in a hypochlorite solution. Necessary contact time is provided in

the water transmission lines and the storage tanks. Colter Bay and Jackson Lake Lodge have separate, 500,000-gallon, buried concrete reservoirs. The Colter Bay tank has adequate capacity to meet existing standard storage requirements (2-day supply during peak month plus fire-flow storage). The tank was recently insulated, and additional cover material was placed over it to protect against freezing and improve winter operation. The tank interior has deteriorated from previous winters of freeze-thaw cycles, resulting in spalling concrete. The Jackson Lake Lodge reservoir is about 300,000 gallons below the capacity needed to satisfy basic storage criteria.

As mentioned above, utilities were designed for summer operation only. Water lines were buried at a depth of just 3-4 feet. One of the biggest problems caused by increased winter functions at Colter Bay is freezing water lines due to deep frost depths. Numerous water line "freeze-ups" have been documented. Water service disruptions have lasted up to 2 weeks. In an effort to minimize freeze-ups, bleeder valves are opened in the winter to keep water flowing in the lines and inhibit freezing. Water production records for Colter Bay indicate that about 100,000 gallons per day (gpd) are wasted in winter to keep the lines open. Water line freezing problems at Jackson Lake Lodge are similar, but not as severe. Records indicate that about 35,000 gpd are used at the lodge during the winter to prevent water line freezing. If the water system is out of service, fire protection capabilities are affected. Year-round fire protection is needed to protect employees living in the housing areas, and to protect large structures such as the Colter Bay visitor center and Jackson Lake Lodge main building.

#### Wastewater System

The Colter Bay wastewater collection system has nearly 5 miles of vitrified-clay pipe, 145 manholes, 4 lift stations and 1,700 feet of force main. The vitrified clay pipe has a history of inflow/infiltration problems. This is evidenced by heavy flows in the collection lines during spring snowmelt and after heavy rainfall. Several years ago, sections of collection lines were repaired by slip-lining methods. One campground lift station currently needs replacement due to severe spring water infiltration. Both campground lift stations lack backup electrical power and adequately sized overflow tanks. The main lift station, which pumps all Colter Bay wastewater to the treatment lagoons, has a stand-by electric generator. Grease accumulation in the collection lines and at the main lift station are an enormous operation and maintenance problem. There are no grease traps at the restaurants. Winter use has not yet affected the collection system due to the high water volume entering the system from the housing area "bleeders." Freezing problems could occur at plowed road crossings if bleeder water is reduced.

The Jackson Lake Lodge wastewater collection system is similar to Colter Bay's. The system is more compact and does not exhibit the same inflow/infiltration problems. A large lift station pumps raw wastewater through an 8,000-foot force main to the central treatment facilities near Colter Bay. The lift station has a backup gasoline engine pump for use during power outages. The collection system is not heavily used in winter, and off season problems are not severe.

Wastewater from both Colter Bay and Jackson Lake Lodge is treated by aerated lagoons near Colter Bay. Separate treatment units and slightly different



processes are used for each area. Colter Bay wastewater is stabilized in aerated lagoons that use surface-type floating aerators. This equipment limits operation of these lagoons to the ice-free months. The lagoon capacity is adequate to provide treatment for existing use (110,000 gpd for peak month), plus a 30 percent increase if needed.

Jackson Lake Lodge wastewater is also treated in an aerated lagoon, but air is supplied by blowers through perforated tubing installed in the bottom of the lagoon. This permits winter operation as necessary. Currently, the tubing has many plugged perforations and needs to be replaced. Treatment capacity is adequate for existing summer use (210,000 gpd for peak month) plus a 40 percent increase if needed during the summer. The winter capacity is less because the water temperature is lower. It is estimated that this lagoon has a maximum winter capacity of 100,000 gpd. The existing winter use is about 50,000 gpd. The majority of this is "bleeder water," emptied into the collection lines to prevent water line freezing. The entire facility is designed so that flows can be interchanged between lagoons.

Treated effluent is disposed in percolation ponds common to both lagoon systems. Evaporation and slow percolation through the pond bottom returns the water to the natural hydrologic cycle. The pond capacities are adequate for existing use and a small (15-20%) increase if needed.

The septic tank/leaching field systems serving the parkway service station, horse concession, and NPS maintenance area are functioning properly. It is not economically feasible to connect these facilities to the central wastewater collection system under current conditions.

## PROPOSAL

Colter Bay and Jackson Lake Lodge are the two areas classified in the Grand Teton National Park Master Plan (NPS 1976) as "high-density recreation" areas offering a "large variety of visitor accommodations and services, which include diverse lodging facilities, a swimming pool, horse concessions, food, and automotive services." The master plan set a parkwide overnight capacity for Grant Teton National Park, freezing it at 1971 levels. The basic concept for the DCP is to continue current uses at Colter Bay and Jackson Lake Lodge, rehabilitate the areas, and redesign or relocate some facilities. The intent is to provide improved opportunities for the existing visitor activities and services, maintain existing overnight capacities, continue a variety of lodging and food service types and price ranges, improve visitor orientation information, encourage pedestrian circulation, reduce traffic congestion and improve safety, maintain and enhance views, preserve park resources, reduce maintenance, provide human-scale development, and accommodate some future growth in day use within the physical and biological limits of the site. New facilities would be compatibly designed with existing development (see Appendix A, Architectural Guidelines). Already disturbed or abandoned areas would be rehabilitated and the sites revegetated. Following are more detailed elements of the proposed plan. All actions refer to Colter Bay unless specified for Jackson Lake Lodge.

### VISITOR EXPERIENCE/ACTIVITIES

The Colter Bay Village and Jackson Lake Lodge visitor experience is oriented to the lake, water recreation, scenic mountain views, and resource interpretation. The experience includes accommodations and services in a high-quality park setting. Major visitor activities that would be continued include boating, fishing, hiking, horseback riding, picnicking, camping, lodging, dining, interpretative walks, evening talks, and other interpretive services.

Winter use levels would continue as at present. Ice fishing, snowplaning, cross-country skiing, and minimal winter camping would continue. Because the 1980 John D. Rockefeller, Jr. Memorial Parkway General Management Plan states that the Flagg Ranch area will continue to be a major winter use site and the staging area for Yellowstone winter activities, there appears to be insufficient need for an expanded winter use operation at Colter Bay or Jackson Lake Lodge during the life of this plan.

### CIRCULATION AND PARKING

Vehicular circulation and parking would be redesigned and improved in the village area (see Proposal map, sheets 1 and 2). Improved signing along the entrance road would also enhance vehicular circulation and reduce visitor orientation difficulties. A general sign plan would be developed as part of the final development concept plan. The 4-way intersection would be widened to provide turning lanes.

Currently, visitors must drive through the store parking area to get to the visitor center, amphitheater, restaurant, picnic area, and marina. The large T-shaped parking area inhibits traffic flow to these facilities. The problems would be corrected by providing a separate road leading directly to

the visitor center, the logical first stop for visitors seeking information about the area. Access to the store and launderette would be off the new road about 450 feet south of the 4-way intersection.

Access to and parking for the restaurant building and marina would also be improved. A separate road would lead from a T-intersection near the visitor center to the marina parking and boat launch ramp, and to separate parking for the restaurant building. Existing pavement would be extensively used for the proposed access road and parking areas. Based on a parking survey conducted during the summer of 1987, the proposal would require the following parking spaces:

	<u>Regular</u>	<u>Oversize</u>	<u>Total</u>
Store/Launderette	90	10	100
Visitor Center/Amphitheater	90	10	100
Restaurant Building	62	8	70
Marina/Boat Ramp	70	30	100
			<u>370</u>

These capacities would accommodate current peak use, plus a 20 percent increase. Oversize vehicles include buses, cars with trailers, and recreational vehicles longer than 20 feet. The parking survey reported an average of only 7 percent oversize vehicles (excluding parking for the marina and boat ramp, which were out of service). However, the above figures provide at least 10 percent oversize spaces (30 percent for the marina/boat ramp) to accommodate peak use and changing vehicle use patterns. The marina/boat ramp parking capacity is based on interviews with park staff familiar with use patterns prior to the reservoir drawdown for dam repair.

These road and parking improvements would be designed to accommodate snowplow operations and oversize vehicles, as needed; and storm water drainage would be addressed during the design process.

Additional walks would be provided to make pedestrian circulation a pleasant and safe experience to all of these popular destinations. Vista openings would be reestablished near the visitor center to restore views of Colter Bay and the Teton Range. This would remove trees that have grown up in the last 20-30 years obstructing some prime views in the area.

#### LODGING

A 60-unit inn would be developed at a site north of the cabin area that was formerly used for the horse corral (see Proposal map, sheet 2). This facility would replace 20 log cabin units and 40 tent cabins. The log cabins to be removed include 8 units immediately behind the restaurant building and 12 deteriorated units interspersed in the log cabin area. The 40 tent cabins would be removed from the lower spur, which would be obliterated and restored. The remaining 32 tent cabins would be rehabilitated and enclosed. If it is more cost-effective to replace these units, the level of accommodation would remain the same (outdoor cooking space and no indoor plumbing), continuing the rustic accommodations opportunity with hard-sided facilities. About 80 parking spaces would be provided to serve the inn and its restaurant. At least 10 percent of these would be oversized spaces to

LEEKS MARIN

0 1000 2000 3000 FEET



JACKSON LAKE

COLTER BAY  
VILLAGE  
(SEE SHEET 2)

ON NIGHT CORRAL

CONSOLIDATE DAY AND  
NIGHT CORRAL AT LODGE

## PROPOSAL

COLTER BAY VILLAGE /  
JACKSON LAKE LODGE

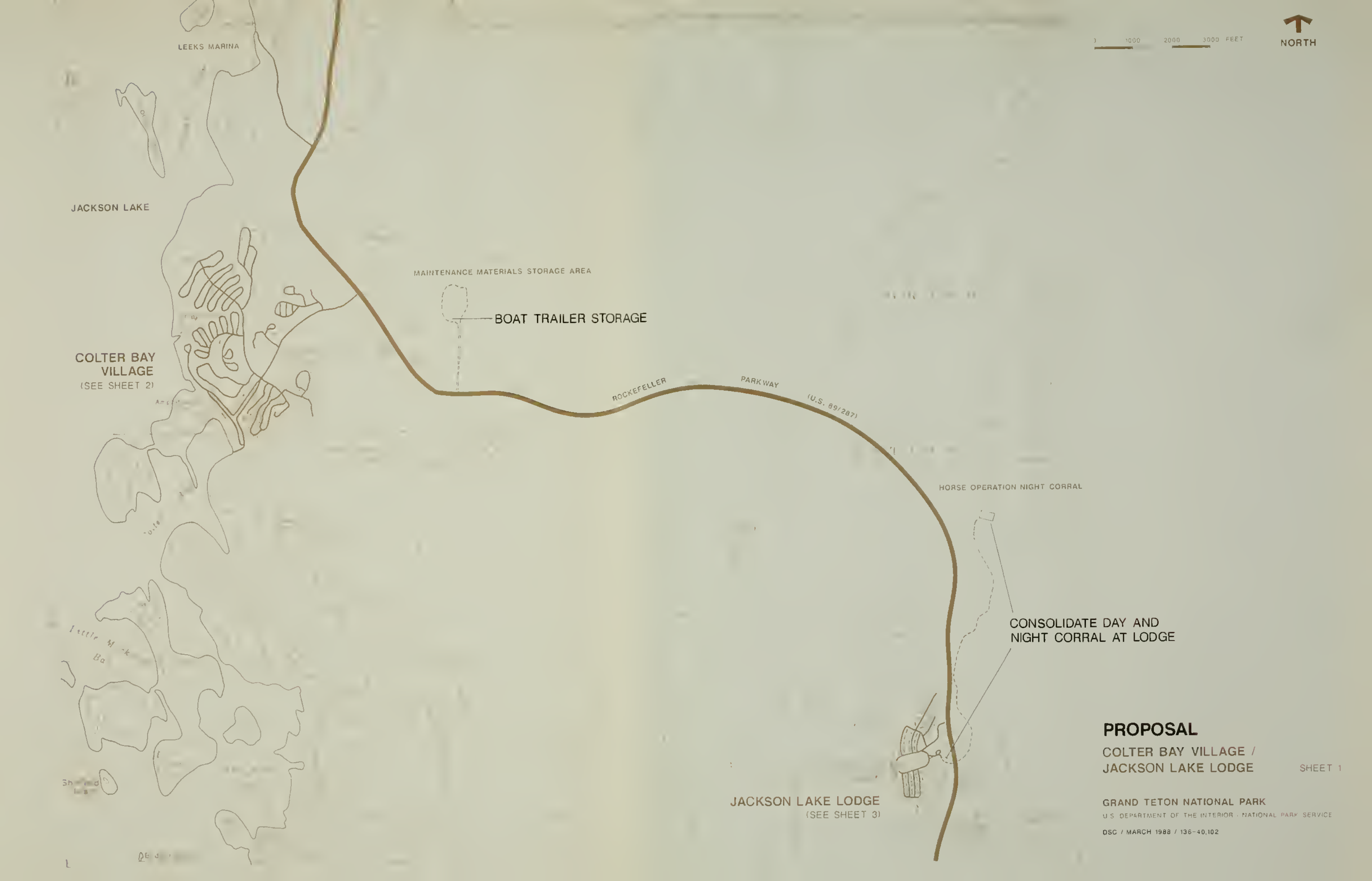
SHEET 1

GRAND TETON NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

DSC / MARCH 1988 / 136-40,102





LEEKS MARINA

JACKSON LAKE

COLTER BAY VILLAGE  
(SEE SHEET 2)

MAINTENANCE MATERIALS STORAGE AREA

BOAT TRAILER STORAGE

ROCKEFELLER

PARKWAY

(U.S. 89/287)

HORSE OPERATION NIGHT CORRAL

CONSOLIDATE DAY AND NIGHT CORRAL AT LODGE

JACKSON LAKE LODGE  
(SEE SHEET 3)

**PROPOSAL**  
COLTER BAY VILLAGE /  
JACKSON LAKE LODGE

SHEET 1

GRAND TETON NATIONAL PARK  
U.S. DEPARTMENT OF THE INTERIOR • NATIONAL PARK SERVICE  
DSC / MARCH 1988 / 136-40,102



# COLTER BAY

## GRAND TETON NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

DSC / MARCH 1988 / 136-40,102

0 200 400 600 FEET



### PROPOSAL

SHEET 2

IMPROVE TRAIL

SPACE

SERVICE STATION

SCREEN SERVICE STATION AND  
REDESIGN CIRCULATION

COMFORT/SEWAGE  
LIFT STATION

PICNIC AREA

JACKSON

LAKE

AT FULL POOL  
ELEVATION 6770

REDESIGN VIL  
CIRCULATION

VISTA OPE

REINSTALL MA

(60 SLIPS, 40 BUO

AIR  
COMPRESSOR HOUSE

SEWAGE LAGOONS

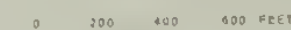
RELOCATE TRAIL

TO JACKSON

U.S. HWY. 89 & 287

GRAND TETON NATIONAL PARK  
U.S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

DEC 1 MARCH 1980 1110 40,102



## SHEET 2





↑  
NORTH

0 200 400 FEET

DSC / MARCH 1988 / 136-40,102

## PROPOSAL JACKSON LAKE LODGE

SHEET 3

GRAND TETON NATIONAL PARK  
U.S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

accommodate buses and other large vehicles. Registration for the cabins would be transferred to the inn, as would be the guest lounge for reading, writing, or small gatherings. The existing guest lounge in one of the cabin buildings would be converted to a hostel. The above changes would be accomplished within the existing Colter Bay lodging capacity.

#### FOOD SERVICE

A new fine dining restaurant and bar would be developed at the proposed inn. The existing restaurant building would provide fast-food service and family dining with a service bar. The existing barroom would be converted to overflow restaurant space, and the snack bar next to the village store would be removed. Following are the maximum capacities for the Colter Bay food service facilities:

Inn Restaurant - 90 seats

Family Restaurant - 220 seats

Fast-Food Restaurant - 80 seats (plus 80 outdoor seats)

The existing restaurant building would be remodeled or completely rebuilt to provide the family dining and fast-food service with an outdoor seating area. One or two small building additions may be needed to upgrade the kitchen facilities and provide the necessary seating space (see Proposal map, sheet 2).

#### MARINA/BOAT TRAILER STORAGE

The marina building would be rehabilitated and enlarged (about 600 square feet). A new dock would be added when the marina is reinstalled, and the number of slips would be increased by 20 to 60, with a corresponding decrease in buoys from 60 to 40. The floating marina pumpout station would be replaced and the gas pump would be reactivated. The NPS dock would be replaced with a larger facility to accommodate up to five boats. The boat ramp loop road and marina parking area would be redesigned to facilitate use by vehicles pulling boat trailers. This would permit more efficient short-term car with boat trailer access and parking. The ramp would not be enlarged. Long-term boat trailer storage would be moved from the area across from the cabin registration office to the NPS maintenance materials storage area, approximately 1 mile east of Colter Bay (see Proposal map, sheet 1). The trailer storage area would be fenced and managed by the concessioner for a fee. The area would also serve the needs of other marinas in the park.

#### SERVICE STATIONS

Because there are three service stations in the study area and only two are needed to provide fuel and minor repair services, the Jackson Lake Lodge station would be closed. The Colter Bay station adjacent to the parkway would be better screened with plantings and earth mounds, the signing would be reduced in size, and the facade would be improved, all to reduce its visual intrusion from the parkway. Vehicular circulation would also be redesigned to eliminate direct access to the parkway with its associated safety hazards and adverse visual impact (see Proposal map, sheet 2). The village service station would continue operating with the existing facilities, providing gas, minor repair service, and a trailer dump station.



The lodge service station building would either be adapted for the horse corral function, converted to the clinic building, or removed. This decision would be determined during the detailed design for the horse corral area.

### HORSE CORRALS

There would be no change to the Colter Bay horse corral. The horse trail going east would be rerouted away from the sewage treatment lagoons. To remove the Jackson Lake Lodge horse driveway, reduce resource impacts, improve operation efficiency, and remove overnight horse corralling from grizzly bear habitat, the day and night corrals would be consolidated at the day corral. The day corral would be expanded but would not be any closer to the lodging facilities (see Proposal map, sheets 1 and 3). Corral cleaning operations to remove horse manure would be increased. Because prevailing winds blow odors away from the lodge, visitor complaints should not increase significantly. The night corral site would be revegetated and restored. The corral expansion concept shown on the Proposal map, sheet 3, would be subject to refinement during detailed design. The medical clinic may be relocated into the vacated service station or another site nearby. A single trail would be delineated along the currently braided stock driveway.

Some conflict between horse ride groups and hikers occurs, as evidenced by hiker complaints to NPS personnel. There is also some feeling among park staff that conflicts occur between both user groups and wildlife in the Hermitage Point/Willow Flats and Christian Pond areas. These conflicts are not well understood and there is a lack of systematically collected data. There are also no wildlife baseline data predating the visitor use concentrations that followed the Colter Bay and Jackson Lake Lodge development. A detailed study should be performed to systematically collect and interpret data and make management recommendations to resolve horse/hiker/wildlife conflicts in what is the most extensive wetland area, and probably the most productive and diverse wildlife habitat, in the park.

### CONCESSION MERCHANDISING/STORAGE/MAINTENANCE

About 5,500 square feet of space would be developed by the concessioner for merchandise offices and work area, storage, and maintenance next to the existing concession storage building in the Colter Bay maintenance area. This would be an addition to the existing building or a separate adjacent structure (see Proposal map, sheet 2). The existing crowded merchandising area in Jackson Lake Lodge would be converted to office and storage space for the concessioner.

### CAMPGROUNDS

To improve campground operations and decrease congestion, the entrance station would be replaced with a combination office/kiosk (about 300 square feet). The entrance road would be widened to provide two lanes of traffic on both sides of the entrance station at all times, and employee parking would be provided nearby. The existing "office" (employee quarters) would be removed, and the trailer dump station would be relocated to the former office site (see Proposal Map, Sheet 2). The group campground would be redesigned to provide six group sites. The remainder of the group campground would be converted back to standard campsites. This would allow other campsites to be

removed or placed on a site recovery program. However, the total number of campsites would be kept at the current 350-site capacity.

A lighted walkway would be developed between the campground and the amphitheater to reduce the number of informal trails and increase visitor safety. Another informal trail along the lakeshore near the campground would be redesigned and formally designated as a hiking trail to reduce resource impacts, improve safety, and enhance hiking opportunities in the area.

There would be no change in the concessioner-operated RV campground, and no action regarding winter camping. Winter camping at Colter Bay decreased when a fee system was implemented, and the small amount of use does not justify a significant change.

#### RANGER OFFICE/FIRE STATION

A new ranger office/fire station (about 5000 square feet) would be developed near the entrance to the maintenance area (see Proposal Map, Sheet 2). This facility would: (1) consolidate ranger operations under one roof; (2) provide needed garage space for boats, vehicles, and equipment; and (3) provide sufficient office and storage space for administration needs. Vehicle storage would include fire trucks, an ambulance, patrol vehicles, and patrol boats. A wildland/structural fire cache would be provided, and offices would be incorporated in the facility.

#### HOUSING AREAS

Twenty-five two-bedroom government-owned trailers would be replaced with apartments (with about 50 bedrooms) for seasonal employees. These would be provided in one or two single-story structures, and the facility would include a recreation room. The apartments would average two bedrooms per unit, but would be designed to provide some flexibility in the number of bedrooms per unit to adapt to changing work force conditions.

The trailer pads provided for seasonal employees bringing their own unit would be relocated to a new site east of the existing employee housing area (see Proposal map, sheet 2). These sites encourage older employees, such as retirees, to work in the area. Retirees are a growing segment of the seasonal work force and are generally more reliable, more skilled, and more flexible about working shoulder seasons than the traditional college-age employee. Older employees are not inclined to live in dormitories and often prefer to bring in their own trailer or RV to reduce their housing costs and reliance on the concessioner and NPS to provide quality housing and food service. Trailer/RV sites are less expensive to build and maintain than apartments. The new facility would provide up to 150 sites, 120 for concession employees and 30 for NPS employees. Additional sites are proposed to accommodate the trend in older employees, to relieve overcrowding at the existing dorms, to allow more employees to convert from a 6-day workweek to a 5-day week, and to serve the reestablished marina, the proposed inn, and its new restaurant.

A new site is proposed for the trailer park to allow removing 77 high-density concession employee trailer sites from the existing ridge-top area (where the facility is a visual intrusion) and 22 spaces from the existing NPS trailer

area (where the proposed apartments would be constructed). The new site is screened from visitor use areas. The area has gentle slopes (less than 10 percent) and soils appropriate for the intended use. Access would be provided off the Colter Bay entrance road opposite the maintenance area road. Site densities would be similar to the existing NPS trailer area (about 15 units per acre) but substantially less than the existing concession employee trailer park. Trailer spaces would be set back about 300 feet from the Colter Bay entrance road and about 400 feet from the tent cabin area. There would be no government-owned or concessioner-owned trailers at this facility. All trailers or RVs would be brought in by the employees at the beginning of the season and removed at the end of the season.

A new two-story, 60-bed dorm would be developed at Colter Bay by the concessioner to permit converting seasonal employees to a 40-hour workweek and to adequately serve existing and proposed facilities in the area. A new Jackson Lake Lodge dorm is being developed under a separately approved plan to relieve a major overcrowding problem in the existing dorms at the lodge area. Landscaping and earth berms will screen this new dorm from the parkway. The informal parking areas behind the existing dorms would be formalized to define the designated parking (see Proposal map, sheet 3).

#### MAINTENANCE AREA

A flammable-storage building (about 500 square feet) would be developed in the maintenance area to improve safety. When the new fire station discussed above is developed, the existing fire station in the maintenance area would be converted to maintenance functions.

#### UTILITIES

##### Basic Needs

This section describes several basic improvements for the area's utility systems necessary to support the existing facilities at Colter Bay and Jackson Lake Lodge as they are currently being used. Additional utilities for proposed facilities are described in the next section.

As stated above, the existing utility system was designed and constructed for seasonal use only. The Colter Bay maintenance area, a portion of the housing area, and the visitor center offices are now used year-round. The utilities have been used during the extended season only by intensive operation and maintenance procedures that are both expensive and time consuming. Several components of the water supply and wastewater treatment system have been upgraded to provide reliable year-round service. The following additional components would be upgraded to meet basic needs regardless of whether other improvements are made to the area.

Water System. Spalling concrete would be repaired on the Colter Bay water storage tank. Water use at the Jackson Lake Lodge area averages 290,000 gpd during the peak use month; a significant portion is for landscape irrigation. The existing 500,000 gallon water storage tank serving the Lodge area is not adequate based on standard water storage criteria. A detailed water supply alternatives study is beyond the scope of this DCP/EA. An analysis would be done to evaluate several water supply options, which might include reducing



irrigation needs by replacing bluegrass lawn areas with drought-tolerant plants, developing a non-potable water source for irrigation, or installing additional storage capacity (about 300,000 gallons) to meet storage criteria. The preliminary cost estimate listed in the appendix is for an additional storage tank adjacent to the existing tank.

To reduce water line freeze-ups at Colter Bay, the main 10-inch diameter line paralleling the access road from the parkway to the visitor center (about 5,000 feet) would be replaced. This water line is the main "artery" for the entire Colter Bay development and is critical for visitor center and housing area fire protection on a year-round basis. The water line would be insulated and buried to a depth below normal frost line. During winter this would save approximately 70,000 gpd currently bled into Jackson Lake to keep the main pipe from freezing. At Jackson Lake Lodge, about 1,200 feet of 10-inch water line would be insulated and buried below normal frostline for the same purpose, saving about 35,000 gpd of water wasted into the sewage disposal system. Water lines in the year-round NPS housing area at Colter Bay would also be insulated and buried below frostline. This would save another 30,000 gpd of water that are currently wasted into the sewage disposal system.

Wastewater System. To reduce inflow/infiltration problems in the Colter Bay sewer lines, approximately 15,000 feet would be slip-lined. Seventy manholes would be repaired to keep runoff water from entering the collection system. These improvements would reduce the hydraulic surcharge on the wastewater treatment facilities during wet periods. One lift station in the campground would be replaced with a new submersible lift station to improve system reliability. Emergency power equipment or overflow tanks would also be installed at both campground lift stations. A grease trap would be installed on the restaurant building discharge line to eliminate the severe grease buildup in the collection lines and main lift station. Sewer lines crossings beneath plowed roads would be insulated to prevent freeze-up.

The wastewater treatment and disposal facilities are adequate if the inflow/infiltration and discharged "bleeder" water is eliminated from the collection system. The plugged perforated air tubing would be replaced in the sewage lagoons.

Emergency Power Generation. Power outages are usually caused by external supply or transmission problems. Winter outages occur almost every year, with durations lasting from several hours to days and, in one case, even weeks. Rather than install a large, costly generator serving the entire development, one or two smaller generators would be installed to serve critical facilities such as the fire station and portions of the maintenance area.

Fuel Storage. Underground fuel tanks that are used at the marina, maintenance area, and service stations would comply with the Environmental Protection Agency's underground storage tank regulations (40 CFR Part 280).

#### Additional Utilities

This section describes additional utilities that would be needed to support



new or relocated facilities recommended in the proposal. All new utility lines would be placed underground.

Lodging. Water, sewer, electric, and telephone services would be provided for the proposed 60-unit inn. The water service would be a looped system to facilitate adequate fire flows. This service would tap the main water line serving the Colter Bay area. The connection would be insulated and buried below frost depth to accommodate shoulder season use. A sewer line connection would be made from the inn to the existing sewer line near the visitor center. The new line would also be buried and insulated at road crossings to permit operation during the shoulder season. A grease trap would be installed to serve the proposed restaurant at the inn. Connections would be made to the existing electrical and telephone facilities that are located nearby.

Trailer Dump Station. The relocated campground trailer dump station would be connected to existing utilities at the new site.

Campground Kiosk/Office. The existing entrance station is served by all utilities except sewer. Approximately 600 feet of gravity sewer line would be installed to provide a small rest room for park staff in the proposed station.

Ranger Office/Fire Station. The proposed ranger office/fire station site has all utilities nearby except sewer. A small lift station and force main would be constructed to pump wastewater into the gravity sewer line that serves the NPS housing area. The large septic tank that serves the maintenance area would serve as an emergency overflow for the lift station. Wastewater from the maintenance shops would also be pumped by this proposed lift station to the main sewer line, thus connecting the area to the central collection and disposal system.

Housing Areas. The water distribution system for the proposed NPS apartments would be provided with larger diameter lines for fire protection. They would be insulated and buried below the frost line. A short section of water line should also be connected with the permanent NPS housing area water line to improve flow characteristics. Sewer lines would be replaced and insulated and the electrical distribution system and telephone system would be modified to conform to the new building configurations.

Existing water lines at the Colter Bay dorms are buried very near the surface and can be used in summer only. If one or more dorms are used during the shoulder season, then the utilities would need to be replaced. At a minimum, the 6-inch water main in the dorm area should to be connected to the 8-inch line proposed for the NPS housing area to form a loop that would improve flows for fire fighting purposes.

New site utilities would be needed for the proposed employee trailer park. An 8-inch water line would be installed and connected to the 10-inch main line. The water lines in the trailer area would be looped and sloped to drain. All water lines would be buried at sufficient depth for potential shoulder season operation. An 8-inch sewer line would also be installed to connect the trailer area to the sewage collection system. The main lift station would be upgraded to handle increased flows from the trailer park and

proposed inn. The collection system in the trailer park would be a conventional gravity system serving individual trailer sites and shower buildings. Existing three-phase electrical power is available adjacent to the site. A secondary electrical distribution system including transformers and meters would be installed in the trailer area. Telephone service also exists nearby. Phone service would not be provided to each site, however. Pay phones would be distributed throughout the trailer area.

#### IMPLEMENTATION COSTS AND PRIORITIES

The proposed improvements would be implemented as government and concessioner funds become available. It is critical that public and private funding be coordinated so that site improvements are appropriately sequenced with building construction. A summary of estimated costs and priorities is shown in Table 1. For a detailed list and breakdown of costs, see Appendix B. The annual NPS operation costs would not be significantly affected by the proposed action. While there would be some increase in maintenance needs for new facilities such as the proposed fire station, there would be decreases from improvements to the roads, utilities, and other facilities in the area. The concessioner would be responsible for the operation and maintenance of new concession facilities. The total gross development costs would be about \$8 million for the government. Concessioner construction costs would total about \$5 million (see Appendix B).

Table 1: Cost Estimate Summary

<u>Development Project</u>	<u>Responsibility</u>	<u>Priority/ Phase</u>	<u>Gross Cost</u>
Lodging	GTLC	4	\$2,307,000
	NPS	4	393,000
Food Service	GTLC	3	753,000
	NPS	3	8,000
Marina	GTLC	1	121,000
Boat Trailer Storage Area	GTLC	1	27,000
Information/Orientation Signing	NPS	2	2,000
Campground	NPS	3	335,000
Service Stations	NPS	4	60,000
Ranger Office/Fire Station	NPS	2	822,000
NPS Housing	NPS	2	3,055,000
Concession Employee Housing	GTLC	1	1,954,000
	NPS	1	336,000
NPS Maintenance Area	NPS	1	138,000
Concessioner Maintenance Area	GTLC	3	400,000
Circulation and Parking	NPS	2	714,000
Horse Corrals	GTLC	2	9,000
	NPS	2	83,000
Basic Utilities	NPS	1	2,033,000

Note: The responsibility for funding is tentative and subject to further negotiations between Grand Teton Lodge Company (GTLC) and NPS.





## ALTERNATIVES

This section describes alternatives to the proposal. They are summarized in Table 2 at the end of this section. Development cost estimates for the alternatives are listed in Appendix B. The following text concentrates on where the alternatives differ from the proposal. Actions refer to Colter Bay unless specified for Jackson Lake Lodge.

### ALTERNATIVE A - REDUCE FACILITIES

The basic concept for Alternative A is to reduce some facilities and services while rehabilitating the remaining development (see Alternative A maps).

Primary activities that would be eliminated at Colter Bay are marina services, horseback riding, winter snowplaning, and winter camping. Current activities at Jackson Lake Lodge would continue. The rationale for this approach is to reduce Colter Bay traffic congestion, parking needs, and general use levels. Also, Colter Bay was never intended nor designed to serve winter use activities.

Log cabin lodging would be reduced by 21 units (12 buildings). Forty tent cabins would be removed from the lower spur in the tent cabin area, and the sites would be revegetated and restored. The remaining 32 tent cabins would be rehabilitated (e.g., new canvas).

There would be no new food service facilities. However, the grill would be remodeled to update the facilities for a fast-food type of operation. The marina operation would not be reinstalled. Rather, the function would be consolidated with the existing marina at Leeks. Long-term boat trailer storage would be discontinued at Colter Bay. However, the boat ramp would be reopened when the lake rises following the dam reconstruction, and short-term car/trailer parking would continue to be permitted. The NPS campground would be converted into a self-serve operation, with campsite selection and fee collection via one or more unstaffed waysides. About 50 sites would be removed to lower the density and permit an improved site rotation/recovery system. The campground trailer dump station would be removed and the function transferred to the concessioner-operated dump station at the village service station. Winter camping would be discontinued at Colter Bay. To remove a visual intrusion and eliminate circulation problems, the parkway service station/convenience store would be removed and the site restored. The village service station and Jackson Lake Lodge service station would continue to operate as at present.

The horse operations would be discontinued at Colter Bay. The existing corral facilities would be removed and the site restored. The horse driveway at Jackson Lake lodge would be fenced and/or surfaced to reduce resource impacts and improve horse operations in that area.

In this alternative, village circulation would be improved with minimal changes to existing facilities (see Alternative A map, sheet 2). Excess parking would be removed because demands would be reduced.

There would be no action for the ranger office and fire station needs under

Alternative A. These functions would continue to be operated in existing facilities.

Government-owned trailers in the NPS seasonal housing area would be replaced with equivalent capacity apartments, as in the proposal. Twenty-two "owner-occupied" trailer spaces would continue to be provided for NPS seasonal employees.

There would be no action to provide additional concession employee trailer or dorm space at Colter Bay. Demands for space would be reduced in this alternative because of the reduced concessioner-provided services and support functions.

To improve safety and maintain basic service for the area, a storage building for flammable materials would be added to serve the NPS maintenance area. Additional concession maintenance/merchandising storage space would be provided in the existing laundry room at Jackson Lake Lodge; the laundry function would be removed and contracted to a company in Jackson. Utility improvements under Alternative A would be the same as described for the Proposal under "Basic Needs."

#### ALTERNATIVE B - NO ACTION

The basic concept for Alternative B is "no action;" that is, to continue current facilities and activities at Colter Bay and Jackson Lake Lodge. For a more detailed description of this alternative, the reader should review the "Existing Conditions" section of this document. A no action concept does not mean "do nothing;" it would permit maintenance and rehabilitation on existing facilities if the size, design, and capacity remain the same. This allows for cyclic maintenance activities. For example, the tent cabins and regular cabins would be rehabilitated. The tent cabin canvas would be replaced and permanent cabin logs would be replaced in-kind to extend the useful life of the lodging facilities.

Under this alternative, the marina would be reinstalled at Colter Bay when the lake returns to normal levels. However, Alternative B would differ from the proposal in two ways. The marina would consist of 40 slips and 60 buoys, which was the status before the facility was temporarily relocated to Pelican Bay. Also, the marina building would not be expanded, only rehabilitated. No development actions would be implemented for the horse corrals. However, operational changes could occur, such as herd reductions or requiring the concessioner to string the horses between the day and night corrals rather than free-herding the animals.

#### ALTERNATIVE C - YEAR-ROUND OPERATION

##### Facilities

The basic concept for this alternative is to make Colter Bay a more significant year-round operation than described in the proposal. In addition, further improvements and more significant redesign would occur for other facilities (see Alternative C maps).

LEEKS MARIN

0 10 20 3000 FEET



JACKSON LAKE

COLTER BAY  
VILLAGE  
(SEE SHEET 2)

ON NIGHT CORRAL

FENCE HORSE DRIVEWAY

## ALTERNATIVE A

COLTER BAY VILLAGE /  
JACKSON LAKE LODGE

SHEET 1

GRAND TETON NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR • NATIONAL PARK SERVICE

DSC / MARCH 1988 / 136-40,103

LEEKS MARINA

JACKSON LAKE

COLTER BAY  
VILLAGE  
(SEE SHEET 2)

MAINTENANCE MATERIALS STORAGE AREA

ROCKEFELLER

PARKWAY

(U.S. 89/287)

HORSE OPERATION NIGHT CORRAL

FENCE HORSE DRIVEWAY

JACKSON LAKE LODGE  
(SEE SHEET 3)

## ALTERNATIVE A

COLTER BAY VILLAGE /  
JACKSON LAKE LODGE

SHEET 1

GRAND TETON NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

DSC / MARCH 1988 / 136-40,103

0 1000 2000 3000 FEET





# COLTER BAY

## GRAND TETON NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

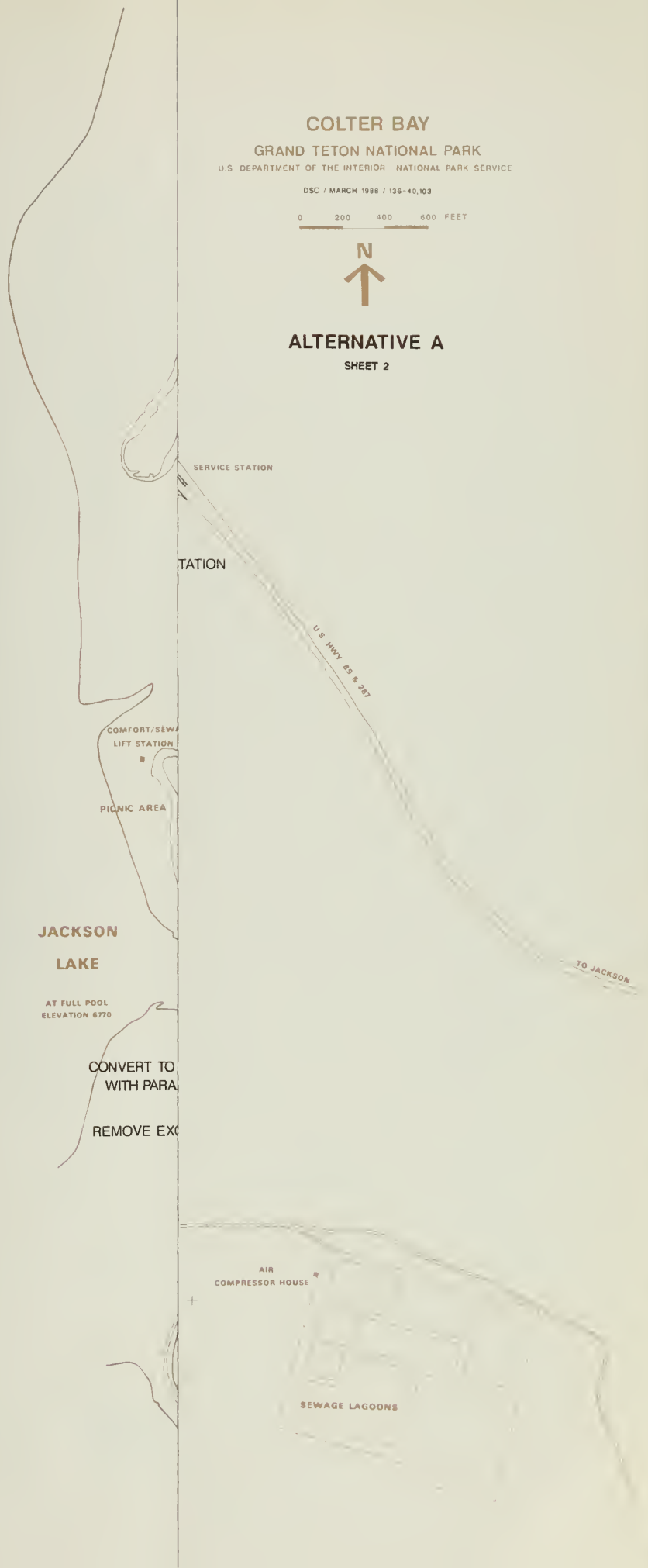
DSC / MARCH 1988 / 136-40,103

0 200 400 600 FEET



## ALTERNATIVE A

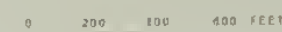
SHEET 2



GRAND TETON NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE

DEC 1 MAR 1966 1138-40,103



## SHEET 2





↑  
NORTH

0 200 400 FEET

DSC / MARCH 1988 / 136-40,103

## ALTERNATIVE A JACKSON LAKE LODGE

SHEET 3

GRAND TETON NATIONAL PARK  
U.S. DEPARTMENT OF THE INTERIOR | NATIONAL PARK SERVICE





LEEKS MARINA

1 000 2 000 3 000 FEET



JACKSON LAKE

COLTER BAY  
VILLAGE

(SEE SHEET 2)

ON NIGHT CORRAL

CONSOLIDATE ALL  
HORSE OPERATIONS

## ALTERNATIVE C

COLTER BAY VILLAGE /  
JACKSON LAKE LODGE

SHEET 1

GRAND TETON NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

DSC / MARCH 1988 / 136-40,104

LEEKS MARINA

0 1000 2000 3000 FEET



JACKSON LAKE

MAINTENANCE MATERIALS STORAGE AREA

RELOCATE NPS MAINTENANCE FACILITY

COLTER BAY VILLAGE  
(SEE SHEET 2)

ROCKEFELLER

PARKWAY

(U.S. 89/287)

NATIONAL

HORSE OPERATION NIGHT CORRAL

CONSOLIDATE ALL  
HORSE OPERATIONS

JACKSON LAKE LODGE  
(SEE SHEET 3)

**ALTERNATIVE C**  
COLTER BAY VILLAGE /  
JACKSON LAKE LODGE

SHEET 1

GRAND TETON NATIONAL PARK  
U.S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE  
DSC / MARCH 1988 / 136-40,104



# COLTER BAY

## GRAND TETON NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

DSC / MARCH 1988 / 136-40,104

0 200 400 600 FEET



### ALTERNATIVE C

SHEET 2

IMPROVE TRAIL

SERVICE STATION

DE

REDESIGN CIRCULATION

U.S. HWY 89 & 267

DE

COMFORT/SEWAGE  
LIFT STATION

REMOVE LOOP

PICNIC AREA

EXPAND RV CAMPGROUND

JACKSON  
LAKE

AT FULL POOL  
ELEVATION 6770

REDESIGN VILL  
CIRCULATION A

ADD NPS BOA

REINSTALL MARIN  
(60 SLIPS, 40 BUOYS)

AIR  
COMPRESSOR HOUSE

SEWAGE LAGOONS

TO JACKSON

COLTER BAY  
GRAND TETON NATIONAL PARK  
U.S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

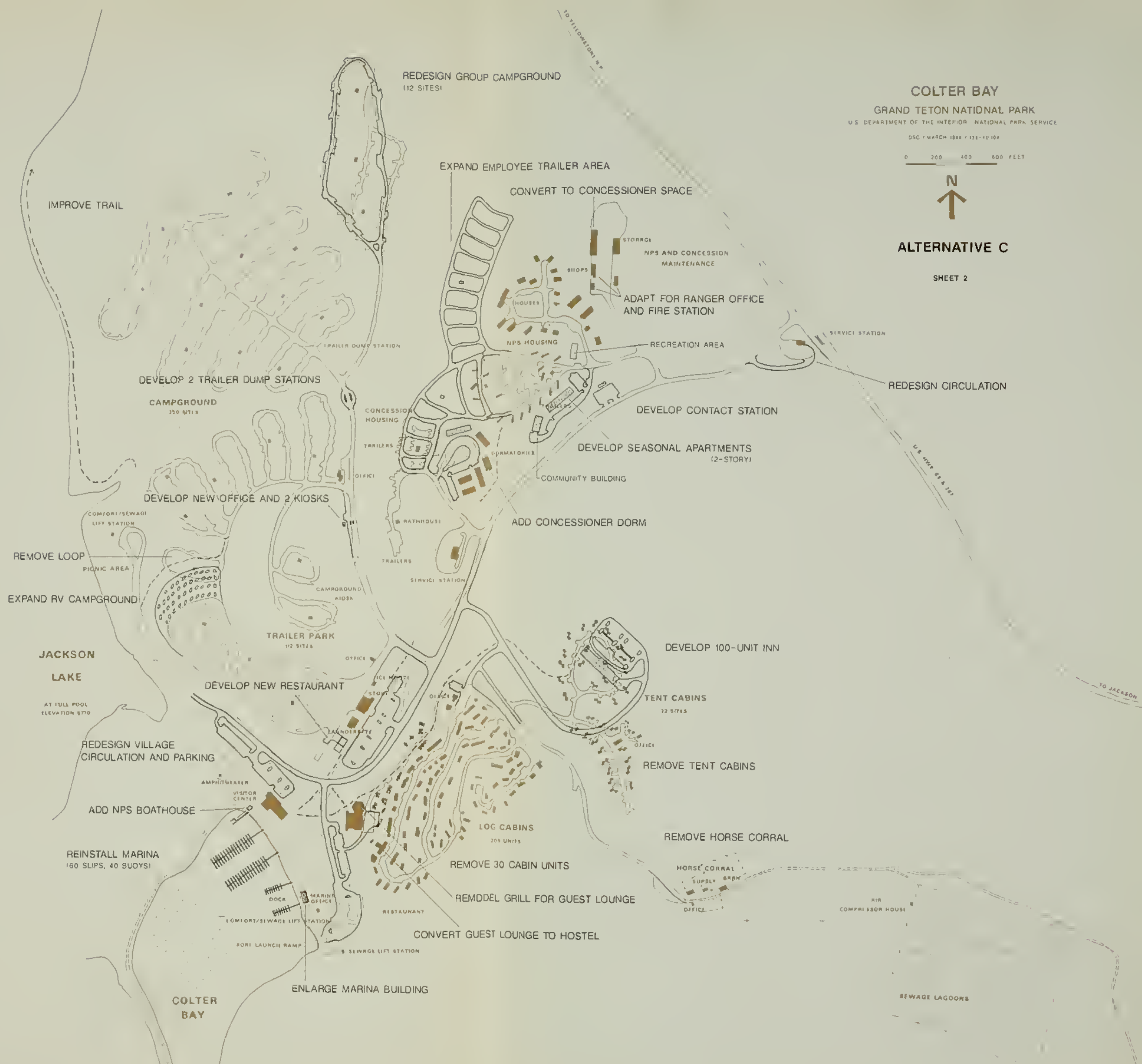
DSC / MARCH 1988 / 138-10104

0 200 400 600 FEET



ALTERNATIVE C

SHEET 2





0 200 400 FEET

DSC / MARCH 1988 / 136-40,104

## ALTERNATIVE C JACKSON LAKE LODGE

SHEET 3

GRAND TETON NATIONAL PARK  
U.S. DEPARTMENT OF THE INTERIOR | NATIONAL PARK SERVICE

The primary change to expand winter use would be a year-round lodging and food service operation. This would significantly increase visitor use during the winter. A new contact station and the village service station would also be opened year-round.

In this alternative, all 72 tent cabins and 28 regular cabin units would be removed and replaced by a 100-unit year-round inn developed in the upper loop of the existing tent cabin area. A new restaurant and bar would be included in the inn. A new fast-food restaurant would be constructed between the visitor center and launderette. The present family restaurant would continue and the grill would be converted to a bar, guest lounge, and offices. The existing guest lounge would be converted to a hostel (as in the proposal).

The marina operation would be reinstalled as described in the proposal. An NPS boathouse would also be developed near the visitor center. Long-term boat trailer storage would be moved to the maintenance materials storage area and operated by the concessioner, as described in the proposal.

The NPS campground kiosk would be removed and replaced with an office and two kiosks. An additional lane would be added to improve circulation through this new entrance station. The existing trailer dump station would be removed and replaced with two new drive-through dump stations. The group campground would be redesigned for 12 sites, which is the existing number of designated group sites. To serve the growing demand for RV camping, 40-sites would be removed from the NPS campground, and an equivalent number would be added to the concessioner-operated RV campground.

Circulation at the parkway service station/convenience store would be redesigned to improve access and increase safety. As mentioned above, the village station would be open year-round. There would be no change to the Jackson Lake Lodge station.

The Colter Bay and Jackson Lake Lodge horse corrals would be consolidated at the existing Jackson Lake Lodge night corral site, including housing for the wranglers. A new access road and parking area would be developed to serve the facility. Existing buildings at the Colter Bay horse corral and Jackson Lake Lodge day corral would be moved to the night corral site, if feasible, and the abandoned sites would be restored.

In this alternative, village circulation and parking would be dramatically redesigned to relieve congestion, improve traffic flows, and rationalize use patterns. This option would make the least use of existing pavement.

To improve visitor information and orientation services in the village, a new year-round contact station is included near the entrance to Colter Bay. This would allow visitors to obtain information and receive direction prior to entering the major development complex.

The ranger office/fire station functions would be expanded into two existing maintenance buildings that would be adapted for ranger activities. This would provide three buildings in the existing maintenance area devoted to ranger functions.



In this alternative, all employee housing needs would be provided near the existing employee housing area. Government-owned trailers would be replaced by seasonal apartments, but with a different site plan than in the proposal and with a two-story structure, rather than single-story construction. A separate community center would be developed in cooperation with the concessioner. The concessioner and NPS owner-occupied trailer area would be expanded and redesigned. This would be developed on the ridge going up behind the existing NPS permanent housing area. The site density would be reduced from the current levels in the concession employee trailer area; and the southern spur of the existing concession trailer area, which is the most visible, would be removed. The new 60-bed concession employee dorm would be developed at Colter Bay. While the capacity is the same as in the proposal, the site planning concept is somewhat different than the proposal.

All NPS maintenance area functions would be relocated to the materials storage site where new facilities would be constructed. In addition to existing activities, the new facility would include additional covered storage, flammable storage, and a backup generator. The existing NPS roads maintenance building would be turned over to the concessioner for merchandising storage and maintenance functions.

### Utilities

The water and wastewater utilities would require major upgrading to support year-round use at Colter Bay. The basic improvements are identified in the proposal. Additional utility improvements required to support new facilities in Alternative C are described below.

Lodging. The proposed 100-unit inn, to be developed in the existing tent cabin area, would be connected to the main water line. The wastewater generated from the inn would be significantly greater than from the existing tent cabins. To provide sufficient collection system hydraulic capacity, wastewater from the inn would be pumped directly to the treatment lagoons. Electrical and telephone services would be extended from existing lines.

Food Service. Grease traps would be installed at all facilities with commercial kitchens or food preparation areas. Existing utility lines are available at the proposed fast-food restaurant site near the launderette.

Campgrounds. Utilities for the office and kiosk are in place and would only require connections. The relocated trailer dump would require a new sewer line to the lift station, and a connection to the water line adjacent to the road. RV park expansion would require utility connections for each proposed site (water, sewer, power).

Using a portion of the existing RV campground for winter use would severely impact the water and wastewater utilities. The cost estimate in Appendix B reflects improvements to one-third of the existing sites for winter operation. Water lines would be insulated and buried below frostline, and sewer lines would be insulated beneath plowed roads.

Information/Orientation. Utilities for the contact station included under Alternative C are located very close to the proposed site. Caution would

have to be exercised in locating the structures so that the existing 8-inch sewer line that serves the NPS housing area is not adversely affected.

Housing Areas. The utilities serving the new NPS apartments and community center would be buried at sufficient depth to accommodate year-round use.

Necessary utilities for the new dorm at Colter Bay would be as identified in the proposal. They would be designed to accommodate year-round use. An extensive utility system would be required for the trailer area. Water distribution and wastewater collection lines would be buried at sufficient depth to permit shoulder season operation. The water distribution system would be sized to provide sufficient fire flows. The site topography would permit gravity sewer lines for wastewater collection. Electrical power and telephone utilities are located in the immediate area. The primary power line (overhead) serving Colter Bay traverses the proposed trailer area. This section would be reinstalled underground. A pay telephone system would also be installed.

National Park Service Maintenance Area. Moving the NPS maintenance area to the materials storage area would require a water distribution system, an onsite wastewater treatment and disposal system, and power and telephone utilities. The main water line serving Colter Bay passes along the eastern edge of the site. A connection would be required to serve the new maintenance facility and provide fire protection. A small septic tank and leaching field would provide onsite wastewater treatment and disposal. Electrical power would be obtained from the main transmission line running from Moran Junction to Colter Bay, and a small emergency generator would be installed.

Horse Corral. Full site utilities would be required at the consolidated corral site. The water supply would be obtained from the main line serving Jackson Lake Lodge. Wastewater would be disposed with a septic tank/leaching field. Electric power needs would be small to moderate and could be provided by onsite generation (mechanical or solar) or by installing a transformer on the adjacent primary power line. Telephone service would require connection to the existing system.

#### ALTERNATIVES CONSIDERED BUT REJECTED

During preparation of this document numerous alternatives were considered but rejected because they would not meet basic management objectives for the area as listed in the "Introduction." For example, an option to eliminate all Colter Bay cabins and replace them with modern motel units was rejected because it would not provide a broad range of lodging experiences and prices. It was also rejected because of the high development costs and steep slopes in the existing cabin area.

TABLE 2: COLTER BAY/JACKSON LAKE LODGE DCP ALTERNATIVES

	<u>Proposal</u>	<u>Alternative_A</u>	<u>Alternative_B</u>	<u>Alternative_C</u>
Concept	Improve/Redesign	Reduce Facilities	No Action	Year-round Use/Major Redesign
Winter Use	No Action	Eliminate snowplanning and winter camping	No action	Expand winter use at Colter Bay (x-c skiing, ice fishing, camping, lodging, food service, interpretation, and sightseeing)
Lodging	Develop 60-unit inn across from cabins; remove 40 tent cabins, enclose 32; remove 20 log cabin units; convert guest lounge to hostel	Remove 21 log cabin units; remove 40 tent cabins, rehab. 32	Rehab. tent cabins	Develop 100-unit year-round inn and remove 72 tent cabins; remove 30 log cabin units; convert guest lounge to hostel
Food Service	Develop new fine dining restaurant with inn; remodel existing restaurant building for fast food and family dining	Update grill facilities for fast food service	No action	Develop new fast food restaurant between laundrette and visitor center; new restaurant with inn; convert grill to guest lounge, bar, and offices
Marina	Rehab. marina building (enlarge 600 s.f.), install 60 slips, 40 buoys; add a new dock; replace NPS dock	Consolidate at Leaks Marina	Reinstate at Colter Bay (40 slips, 60 buoys)	Same as proposal plus NPS boathouse

Campgrounds Summer Campground	Develop new office/ kiosk; relocate trailer dump station; redesign group campground (6 sites)	Convert to self-serve, reduce sites, and remove trailer dump station at NPS campground	No action	Develop new office/ kiosk; expand RV campground and reduce NPS campground by 40 sites; develop 2 trailer dump stations; redesign group campground (12 sites)
	No action	Discontinue winter camping	No action	Open portion of RV campground
Information/Orientation				
Long-term Boat Trailer Storage	Improve signing	No action	No action	Develop year-round contact station near entrance
	Move to maintenance materials storage area	Discontinue long-term trailer storage	No action	Move to maintenance materials storage area
Service Stations	Redesign circulation and screen parkway station; close Jackson Lake Lodge station	Remove parkway station	No action	Redesign circulation at parkway station; open village station in winter
	Develop new station near maintenance area	No action	No action	Adapt 2 NPS maintenance buildings to be vacated (see below)
Ranger Office/Fire Station	Replace government trailers with apartments; provide 30 owner-occupied trailer spaces east of existing housing area	Replace government trailers with apartments and provide 22 owner-occupied trailer spaces at existing site	No action	Replace trailers with apartments; provide 30 owner-occupied trailer spaces and community center (w/conc.) near existing housing area
NPS Housing				



Concessioner Housing	Relocate 77 trailer sites and provide 43 additional sites east of existing housing area; develop new dorm	Provide additional housing outside the park	No action	Redesign and consolidate concessioner trailer sites with NPS sites; develop new dorm
NPS Maintenance Area	Develop flammable storage building; convert fire station to maintenance use	Develop flammable storage building	No action	Move to maintenance material storage area
Concessioner Maintenance Area	Expand next to existing building in maintenance area	Use laundry at Jackson Lake Lodge for merchandising space	No action	Turn over NPS "roads" maintenance building to concessioner
Circulation/Roads/Walks/Parking	Improve circulation; redesign using existing pavement where feasible	Reduce parking; improve circulation with minimum change to existing pavement	No action	Improve circulation; major redesign
Horse Corrals	Consolidate Jackson Lake Lodge day and night corrals at day corral site	Remove horse operations from Colter Bay; fence and/or surface horse driveway at Jackson Lake Lodge	No development action; potential operational changes	Consolidate Colter Bay and Jackson Lake Lodge operations at Jackson Lake Lodge night corral

Note: Actions refer to Colter Bay except as specified for Jackson Lake Lodge



## ENVIRONMENTAL CONSEQUENCES

This section describes the environmental effects that would result from the proposal or the three alternatives if implemented.

### PROPOSAL

#### Natural Environment

Water Resources. All proposed development, except the marina docks, would lie above 500-year floodplains in the study area. The docks are designed to float up and down with fluctuating lake levels and would not be affected by the 6,769-foot maximum water surface elevation. Marinas are excepted actions under NPS floodplain management guidelines (NPS 1982). The proposed development would not affect any wetlands in the study area. In compliance with EO 11988 and 11990 there would also be no secondary effects on floodplains or wetlands. Runoff from developed areas would not effect wetlands. Surface water resources would be unaffected by siltation or runoff from construction. Jackson Lake water quality would be unaffected by the proposed marina modification. There would be a continued potential for minor petroleum product spillage incidental to fueling and operating motorboats, as with any marina operation. This would not effect the aquatic organisms, aesthetics, or potability.

Air Quality. Air quality would be locally and temporarily affected by dust from excavation, grading, asphalt paving emissions, and equipment emissions. Dust and emissions would be minor and not detectable outside of the developed area. Paving operations would not be large enough to warrant borrow or batch plant operations inside the park.

Soils and Vegetation. New buildings, utilities, roads, and parking areas would be constructed at two types of sites--undisturbed sites and previously disturbed sites currently occupied by existing buildings or paving that would be removed prior to construction. Some disturbance would be temporary such as slopes adjacent to building or parking areas that are revegetated, while other disturbance would be permanent such as areas covered by buildings and parking lots.

Some existing developments would be reclaimed by removing pavement, decompacting soil, restoring the original surface contour, and replanting with native species.

Constructing new buildings, roads, and parking at Colter Bay and Jackson Lake Lodge would cause a net increase of about 6 acres of permanent soil and vegetation disturbance. The new employee trailer park would account for about 5 of the 6 acres, and would occur in undisturbed lodgepole/fir forest. An additional 5 to 6 acres of temporary soil and vegetation disturbance adjacent to development sites would result from slope grading and general equipment operation. These areas would revegetate following construction.

Vista clearing activities would selectively remove about one acre of lodgepole pine and fir trees near the visitor center. The trees have

gradually matured or invaded the area since the village was developed 25-30 years ago. These trees are very common in the area.

Consolidating the Jackson Lake Lodge horse operation and obliterating the night corral would restore about 2 acres to native vegetation and allow revegetation of braided trails along the existing horse driveway.

Underground utility line construction would require soil and vegetation disturbance for trench excavation, affecting about 2.3 acres of undisturbed forest vegetation. Most of this area would revegetate with grass and forbs. Some trench excavation would occur in areas that are currently disturbed, such as immediately adjacent to or under buildings and roads. Constructing a water storage tank for the Jackson Lake Lodge adjacent to the existing tank would permanently disturb a 0.5 acre site.

Wildlife. All construction, with the exception of the employee trailer park and some utility line excavation, would occur in existing developed areas. Construction activities in the developed areas would locally affect ground dwelling rodents and tree dwelling mammals and birds by habitat removal/disturbance. Waterfowl, raptors, and larger mammals such as coyote, elk, moose, and black bear would not be affected.

The employee trailer park construction would remove about 5 acres of undisturbed lodgepole pine/subalpine fir forest habitat used by tree dwelling birds and small mammals. Larger animals that are easily displaced by human activity such as pine martin, elk, and coyote, would be displaced from a larger area (about 10 acres) influenced by human use. These impacts would be partially offset by restoration of the existing concession employee trailer park (about 4 acres).

Consolidating the Jackson Lake Lodge horse operation to the day corral and closing the night corral would reduce wildlife disturbances in forested habitat around the night corral area caused by motor vehicle traffic and activity at the corral. The twice-daily horse drive to and from the lodge area would cease, reducing possible disturbance to waterfowl on adjacent ponds.

Heavy trail use by hikers and concession horse riders (currently 19,000 combined rider days from both sites) would continue in high quality wildlife habitat adjacent to Colter Bay and Jackson Lake lodge. Nesting waterfowl (which are sensitive to humans) may be displaced by trail users. Ungulates, such as moose and elk, may tolerant more human use. Hikers, especially photographers, may approach animals too closely and cause them to retreat or leave their nests. Horse groups generally stay together on the trail, probably reducing their cumulative impact on wildlife. Some conflicts occur when low-lying trails are flooded by new beaver dams. The dams are sometimes removed to maintain the trails, which also effects other wetland environment inhabitants such as waterfowl and moose. The effects of intense recreational use in backcountry areas, which are also high quality wildlife habitat due to their diversity and productive wetland environments, is not well understood and deserves long-term study. Little or no baseline wildlife population data predating development exists for these areas. Winter wildlife impacts would remain unchanged.



Threatened and Endangered Species. There would be no effect on the endangered bald eagle, peregrine falcon, or whooping crane from proposed construction. No nesting, roosting, or foraging habitat used by these populations would be near, or effected by, building, road, or utility construction. Horse and hiking traffic would continue along existing patterns in the high quality habitat used by these bird species as foraging areas. There are no known impacts from these activities.

Grizzly bear are periodically sighted in the backcountry near the developed areas. There is no known impact from existing horse concession backcountry use or stable operations. Closing and obliterating the night corral would restore about 2 acres of management situation 2 grizzly bear habitat. About 10 acres of potential undisturbed forest habitat in management situation 2 and 3 areas would be affected by the employee trailer park; however, this area is surrounded by existing development and the park road, and existing disturbance and potential conflicts with humans in the developed area diminishes its habitat value. If grizzlies enter the developed areas, they are trapped and released elsewhere to reduce bear/human interaction, pursuant to approved management plans. The proposed construction would not affect the bear because they do not use these developed areas. The proposal would therefore have no effect on the threatened grizzly bear.

#### Cultural Resources

Archeological Resources. The Colter Bay and Jackson Lake Lodge developments have had an "intensive surface survey," with no known archeological sites indicated. Most proposed construction would occur on ground previously disturbed by construction, which would further reduce the chance for disturbing intact cultural material. The proposed employee trailer park site and portions of proposed utility corridors were not part of the above survey, and would be surveyed prior to disturbance. The archeological sites along the shore of Colter Bay would not be affected by the marina modifications. If any archeological material was discovered during construction, activity would be halted until assessment and clearance actions were performed.

Historic Resources. The Jackson Lake Lodge buildings that are considered eligible for nomination to the National Register of Historic Places would not be affected by the proposed actions. The corral expansion and dorm parking improvements would be screened from the historic structures by existing trees. There are no historic structures at Colter Bay.

#### Visitor Use/Socioeconomic Environment

There would be short-term impacts to Colter Bay visitor use including some construction inconvenience. Visitor traffic between the store, marina, and picnic area would be disrupted by access road and parking area redevelopment. Traffic management, visitor closure, or work scheduling during the shoulder season may be necessary for efficient contractor work. Housing, maintenance, lodging, restaurant, and ranger facility construction would be on sites out of the main visitor traffic flow, and would cause little conflict. Restaurant building remodeling could be done during the off-season when the facility is normally closed. Underground utility line rehabilitation would require extensive trench excavation throughout the entire Colter Bay area, causing some inconvenience for visitors from temporary pavement breaks and

detours. There would be long-term benefits from improved facilities to visitors and improved working and living conditions for concession and NPS staff.

Long-term benefits from road and parking modifications would include reduced congestion and delays in the village area. Separating the road and parking areas would reduce traffic accidents in front of the village store and generally improve safety in the village area. The circulation and signing proposals would facilitate access to the visitor center improving orientation for first time visitors. The new traffic circulation, parking concepts, and proposed walkways would encourage more pedestrian movement in the village.

The proposed vista clearing near the visitor center would reestablish views of Colter Bay and the Tetons from the village area. This would enhance the visitor experience and provide additional photographic opportunities.

The new 60-unit inn would broaden the range of lodging opportunities and satisfy a demand for motel-styled accommodations at Colter Bay. It would also offer the potential to serve visitors during the shoulder season. Reducing the tent cabins by 40 units (56 percent) would reduce the low-cost lodging capacity somewhat. The proposed hostel-styled accommodation would help compensate for the tent cabin reduction, although it would not be family-oriented. Enclosing the remaining tent cabins would improve the facility quality and reduce operational costs.

The remodeled restaurant building would provide moderately-priced family meals and fast-food to replace the outdated and inefficient lunch counter grill. Visitors would benefit from some increased total restaurant capacity and improved efficiency by experiencing less waiting time and increased variety.

Increasing the marina slips would provide greater convenience for area boaters and increase concession efficiency. Because buoy numbers would be reduced, the overall capacity and use levels would remain the same. Moving the boat trailer storage to the maintenance materials area would create minor inconvenience and additional costs for trailer owners, but would improve the developed area appearance and reduce impacts on vegetation in the area.

Visitors entering the NPS campground would experience less traffic delay and improved access due to circulation modification.

Redesigning circulation and better screening of the parkway service station and convenience store would simplify the parkway/Colter Bay road intersection, reducing turning hazards and the visual intrusion. Closing the lodge service station would cause some inconvenience to persons seeking gas or minor repair service, however these services are readily available in the Colter Bay area. The Colter Bay service stations have adequate capacity for the increased traffic. Most lodge service station businesses would probably move to other facilities owned by the same concessioner. Some businesses would move to other areas, with a resulting decline in revenue for the concessioner. The actual reduction in revenue is unknown.

NPS staff would have more efficient working conditions and increased office space. A new ranger station/fire cache would centralize emergency response

vehicles, equipment, and staff into one building, with improved efficiency and reduced response time for emergencies.

Employee housing quality and maintenance costs would be improved by replacing NPS trailers with apartments, although there may be some loss of privacy with the increased housing density. The proposed employee trailer park would provide reduced crowding and improved appearance. It would remove a major visual intrusion from the ridge next to the campground. The new concession dormitory would reduce crowding in existing dorms. The new backup generator(s) would relieve the inconvenience and improve safety at critical administrative facilities during commercial power outages.

Conflicts between hikers and horseback riders using the same trails would continue. Hikers would continue to file complaints with the NPS about dust, mud, and horse manure on the trails.

#### ALTERNATIVE A - REDUCE FACILITIES

##### Natural Environment

Water Resources. Removing the trailer sewage disposal station in the NPS campground may result in campers dumping sewage on the ground if they choose not to use the concessioner-operated dump station at the nearby village service station. Other water resources, such as floodplains, wetlands, surface streams, or Jackson Lake, would remain unaffected.

Air Quality. New building construction, paving removal, and site reclamation would have no significant effect on air quality. Some dust and equipment emissions would be released; however, these would be temporary and minor, and would be undetectable away from the site.

Soils and Vegetation. Building, road, and parking area removal would result in reclamation and revegetation of about 6 acres of development sites at Colter Bay.

Constructing underground utility lines would disturb about 2.3 acres of vegetation as described under the proposal.

At Jackson Lake Lodge, employee dorm parking would cover about 1 acre of existing disturbed area.

Fencing the horse driveway would reduce the impacts on vegetation because the braided trail would be reduced to a single trail corridor.

Wildlife. There would be no new adverse impacts on wildlife in or adjacent to the developed areas from this alternative. Horse concession traffic from Colter Bay into the backcountry would cease, reducing trail traffic in high quality wildlife habitat. The effects of this change compared to existing conditions are uncertain because of lack of data on existing impacts. Jackson Lake Lodge horse operations would remain the same as the existing conditions. Vehicle traffic would continue into the night corral area, and twice-daily horse drives between the day and night corrals would continue, with possible disturbance to wildlife and waterfowl on nearby ponds.



Threatened and Endangered Species. There would be no adverse impacts on threatened or endangered species by Alternative A construction or use actions. Concession horse traffic into the Hermitage Point/Swan Lake foraging habitat (used by the endangered bird species) would cease. There are no known impacts from such use. Grizzly bear do not use the developed areas and would not be affected by construction actions. Trail rides from Jackson Lake Lodge would continue along existing patterns, with no known impacts to the grizzly bear.

### Cultural Environment

Archeological Resources. The limited construction on disturbed sites, building removal, and paving would have little potential for disturbing archeological material. Excavation to replace water lines could affect undisturbed areas adjacent to the developed area. There are no known sites in the area. Undisturbed areas would be surveyed prior to disturbance. If archeological material were discovered, salvage and clearance actions would be performed.

Historic Resources. There would be no effect on the Jackson Lake Lodge buildings considered eligible for the National Register of Historic Places. Proposed fencing for the horse driveway would not be visible from the historic structures.

### Visitor Use/Socioeconomic Environment

There would be short-term inconvenience to visitors and employees from construction, similar to the inconvenience described under the proposal.

Eliminating winter camping in the parking lot and winter snowplane parking would discourage some park use by ice-fishermen, most of whom are from Teton County and adjacent areas. Snowplanes could be stored at Signal Mountain Lodge and snowmobiles could continue to be brought in and out daily.

Removing 40 tent cabins (56 percent) would reduce low-cost lodging that is attractive to families and young adult visitors seeking low cost accommodations. Removing 21 log cabin units (about 10 percent), would reduce the opportunity for moderate-priced rustic lodging, which is becoming increasingly scarce in the National Park System.

Updating the Colter Bay grill would increase visitor convenience and reduce operational problems with the existing outdated facility.

Boat owners would continue to launch in Colter Bay; however, removing marina facilities would cause most boat owners, and all boat renters, to patronize the Leeks or Signal Mountain marinas. These marinas do not provide as much shelter from wind and waves as Colter Bay, which may lead to increased storm damage to boats. The other marinas operate at full capacity and would have to be expanded to accommodate the added use, or there would be a scarcity of buoy and slip storage capacity.

Operating the NPS campground as a self-service facility would reduce the need for campground staff, and the visitor's opportunity to contact park rangers for emergencies or information. Nuisances would increase from noisy campers



and increased traffic through the campground caused by persons searching for campsites.

Completely eliminating the boat trailer storage would inconvenience a limited number of trailer owners but it would remove a visual intrusion.

Removing the parkway service station/convenience store would remove a visual intrusion from the parkway and eliminate circulation problems caused by the direct access to the parkway. It would cause some inconvenience for park visitors and reduced income and employment for the concessioner.

Converting seasonal NPS housing from government-owned trailers to apartments would improve management efficiency and reduce maintenance costs. The increased dwelling density may cause some loss of privacy for employees.

Existing concession employee housing would become less crowded, because fewer employees would be required due to the reduction of facilities and services. Additional housing, if needed, would be found outside the park, necessitating commuting 20-45 miles each way to work.

Providing a flammable storage building in the NPS maintenance area would improve employee safety. Generators for back-up electrical power supply would relieve inconvenience from numerous power outages at critical facilities.

Moving the laundry operation out of the lodge would provide increased local employment in Jackson but may increase the concessioner's operating expenses.

Traffic circulation and parking in the central Colter Bay Village area would be modified to simplify traffic and improve safety, with a reduced number of parking spaces. Parking would be planned to accommodate existing traffic volume, but would not accommodate additional traffic growth.

Removing the horse concessions from Colter Bay would eliminate a popular visitor activity in this area of the park. Horse use would be continued at Jackson Lake Lodge. This would cause inconvenience to Colter Bay visitors who desire a horse ride, and visitors may be turned away when the lodge trail rides are full. The proposed fencing for the horse driveway would be visible from the parkway. Fence materials would be selected to minimize visual impacts. Eliminating horse traffic from the Colter Bay area would reduce the existing conflicts between hikers and horsemen on the Hermitage Point/Swan Lake trails. Hiker complaints would decline in this area. Maintenance expenses on trails in the Hermitage Point/Swan Lake area would be reduced, as trails are more expensive to maintain for horse traffic than for hiking.

#### ALTERNATIVE B - NO ACTION

##### Natural Environment

Water Resources. There would be no effects on water resources such as floodplains, wetlands, or surface streams by the existing development. With the marina reinstated in Colter Bay there would be minor oil discharge from outboard motor use; however, this would have minimal effects on water quality.

Soils and Vegetation. Minor ongoing disturbance to soil and vegetation would result from continuing maintenance for existing facilities including underground utility repair, and occasionally moving mobile homes or cabins. "Social trails" caused by unplanned foot traffic around buildings, parking lots, and campsites would continue to occur, resulting in compacted soil, vegetation loss, and visual impact. Horse driveway use between the day and night corrals would perpetuate about 5 acres of compacted soil and trampled vegetation. Some of this driveway is visible from the park road and nearby hiking trails. Trails in the Hermitage Point/Swan Lake area would continue to be made more muddy in early season and dusty during dry weather due to horse traffic.

Wildlife. There would be no impacts on wildlife in or adjacent to the developed areas from actions identified under this alternative. The existing hiker and horse use would continue with uncertain impacts in the high quality wildlife habitat described above. Approximately 19,000 rider-days per year total are currently reported for Colter Bay and Jackson Lake Lodge. The hiker and horse use effects on wildlife are uncertain, especially on nesting waterfowl. Abundant wildlife including waterfowl, elk, and moose are frequently observed by visitors, implying frequent interaction between humans and wildlife. The Christian Pond shoreline and other areas have been posted closed to visitor travel to reduce nesting waterfowl displacement, including trumpeter swans. Areas within 0.5 mile of bald eagle nests are posted closed to public entry. Localized management actions such as this seem to be alleviating obvious conflicts.

Threatened and Endangered Species. No known impacts to threatened and endangered species would result from continuing the existing development and use.

The Hermitage Point/Willow Flats area is foraging habitat for bald eagle, peregrine falcon, and whooping crane. One active bald eagle nest is in the area. Sandhill cranes also nest in the area, which is considered potential whooping crane nesting habitat. Human trail traffic presents a potential source of disturbance or displacement to these species; however, no disturbance or displacement has been recorded.

Grizzly bear are occasionally sighted in backcountry areas north and east of the parkway. This area is south of Pilgrim Creek and designated a grizzly bear management situation number 2 area, meaning it provides usable, although not necessarily high quality, habitat and has some occasional grizzly bear use. In management situation 2 areas, grizzlies are an important management consideration, although are not considered the exclusive land use. The night corral, access road, popular horse rides, and hiking trails are in this area, and use would continue. There may be some potential for either bear displacement from vehicular or trail traffic or attracting bear with resulting conflicts; however, neither has been a demonstrated problem under existing management patterns.

#### Cultural Environment

Archeological Resources. Some occasional excavation would continue to occur to maintain water lines, buildings, and roads, which could potentially result

in loss of cultural material. There are no known archeological sites in the affected area.

Historic Resources. No historic buildings would be affected under the no action alternative.

#### Visitor Use/Socioeconomic Environment

Minimal winter visitor facilities would continue to be provided, including parking (with some overnight camping), rest rooms, and emergency services. Local ice-fishermen would continue to store snowplanes for the winter, and camp in the parking lots.

Existing lodging would continue to provide a variety of price ranges in the summer, including low-priced tent cabins. The Colter Bay grill would continue outdated counter seating with less than optimum efficiency due to the floor plan and equipment problems, resulting in customer waiting.

Continuing the outmoded circulation roads, parking lots, and intersections would result in the continued occurrence of minor accidents, traffic congestion, delay, and confusion. Existing traffic problems would worsen with future growth of park traffic, and/or with increased use of large recreational vehicles.

The existing traffic congestion and visual intrusion on the parkway associated with the service station/convenience store would continue.

Conflicts between hikers and horses using the same trails would continue. Hikers would continue to complain to NPS about trail dust, mud, and manure. Horse trail maintenance needs would continue. Horse riders would continue to enjoy viewing wildlife and mountain scenery, with stables conveniently located to the lodging.

Existing NPS operational efficiency would continue to be less than optimum due to the lack of centralization of emergency vehicles and equipment, lack of office space, lack of a secure area for campground money counting and office work, and lack of a centralized flammable material storage building. Operation of government-owned mobile homes for employee housing would perpetuate high maintenance and amortization costs. Employees providing their own trailers would continue to use a congested and unsightly facility.

The existing concessioner's operational problems would continue from overcrowded employee dormitories, crowded employee-owned trailer hookup area, lack of merchandising storage, inefficient food service facility, and labor intensive tent cabins.

Operational problems caused by the existing utility systems would continue. These result in high maintenance costs for continuous broken or frozen water line repair, extra pumping expense to keep water running through the pipes during winter (to help prevent freeze-ups), and inconvenience to employees and their families during freeze-ups. Groundwater infiltration into sewer pipes during the spring thaw would continue to require greater than normal lift station pumping that taxes the disposal system. Some lift station and electrical vault flooding would continue to be a hazardous condition for



employees. Electrical outages would continue with no emergency back-up generator system, resulting in inconvenience from disruption of commercial and visitor services.

#### ALTERNATIVE C - YEAR-ROUND OPERATION

##### Natural Environment

Water Resources. Surface waters would be unaffected by siltation or runoff from construction because there are no streams adjacent to proposed construction sites. Effects to Jackson Lake would be the same as described under the proposal. There would be no effect on floodplain or wetlands.

Air Quality. The effects on air quality would be the same as described under the proposal.

Soils And Vegetation. The disturbance to soil and vegetation would be similar to that described under the proposal.

Building, road, and parking area construction would result in about 20.2 acres of permanent disturbance. Removing similar features would allow reclamation of about 7.8 acres, for a net permanent disturbance by construction of buildings and paved surfaces of about 12.4 acres. Building, access road, and parking construction at the maintenance materials storage area would permanently cover about 4.7 acres. This construction would occur on existing disturbed land occupied by the gravel-surface access road and compacted dirt and gravel maintenance materials storage area. Parking area construction at Jackson Lake Lodge would permanently cover about 1 acre of already disturbed areas.

Wildlife. Disturbing about 13.8 acres of soils and vegetation would remove habitat used by ground and tree dwelling rodents and birds that live in or adjacent to the existing developed areas. Large mammals do not regularly use the existing developed areas, and would be unaffected by construction in the Colter Bay village.

Permanent buildings at the new maintenance area and increased traffic from NPS maintenance functions would cause new displacement of wildlife adjacent to the maintenance materials storage area. Elk, coyote, and possibly black bear would be the most affected animals. Construction would not cause increased vegetation loss because the area is already disturbed by prior maintenance storage activity.

Consolidating the Colter Bay and Jackson Lake Lodge horse operations to the existing night corral site would remove horse traffic from high quality wildlife habitat in the Hermitage Point/Willow Flats area. The effects would be uncertain due to a lack of data on wildlife/trail use impacts for the area. Horse rides would use the area around Grand View Point, Emma Matilda, and Two Ocean lakes. Compared to the Hermitage Point/Willow Flats area, this area generally has fewer wetlands, less wildlife (including nesting waterfowl), and generally well-drained soils. Vehicle traffic, human activity, and wildlife disturbance would increase in and around the new consolidated corral site. By consolidating horse traffic from both developed



areas into one area, the density of trail use and traffic around stables would generally increase.

Winter visitation would substantially increase with the year-round guest lodging, which may result in increased cross-country skier traffic in moose wintering areas. Travel may be restricted to designated winter trails to reduce animal disturbance. Snow machines are restricted to the frozen surface of Jackson Lake in this area, which keeps snow machine traffic out of the winter habitat.

Threatened and Endangered Species. There would be no effects on the bald eagle, peregrine falcon, or whooping crane under this alternative. These species generally do not use the area that would receive heavier horse traffic around Two Ocean and Emma Matilda Lakes.

The proposed NPS maintenance facility at the materials storage area would occupy an area classified as grizzly bear management situation number 1. Under Interagency Grizzly Bear Guidelines (IGBC 1986) these areas are to be managed with human uses secondary to the needs of the grizzly bear. There has been no known grizzly bear use in the immediate area or adjacent areas in the past, although it is potential habitat and grizzlies are periodically observed in the vicinity.

The area, including the consolidated corral site and nearby trails that would have increased concession horse rides, is classified grizzly bear management situation number 2. This area is potential grizzly habitat with periodic sightings of grizzlies passing through the area.

The effects on grizzly bear from the above actions may be an increase of human activity and disturbance in potentially used habitat, although no grizzly food sources would be reduced and, with proper management, no new attractants or conflicts would be offered.

### Cultural Environment

Archeological Resources. The impact on archeological resources would be similar to that described under the proposal. Most building and road construction would occur on disturbed sites, and building and paving removal would have little potential for disturbing archeological material. Undisturbed areas would be surveyed prior to disturbance. If archeological material were discovered, salvage and clearance would be performed.

Historic Resources. No historic buildings would be affected under Alternative C actions. The dorm parking improvements at Jackson Lake Lodge would be screened from the historic buildings.

### Visitor Use/Socioeconomic Environment

The short-term construction inconvenience to visitors and employees would be similar to the proposal.

Year-round lodging at Colter Bay would be the only winter lodging available in Grant Teton National Park. This would compete with existing winter lodging operations at Flagg Ranch and at Togwotee Mountain Lodge.

A winter operation would require an increased year-round concession staff residing in the area. Greater winter visitation would increase the need for NPS visitor services such as interpretation and emergency support. An estimated NPS staff increase of 0.7 person-years would be necessary to operate the contact station in the winter. Ranger staff needs would increase by about 2 person-years under Alternative C. It would substantially increase concession maintenance needs and year-round employment at the area.

The proposed inn would have benefits similar to those described under the proposal. The building site for this alternative, on the hill now occupied by the tent cabins, has a more panoramic Teton mountain view.

Removing the tent cabins would eliminate an entire low-cost family lodging option. Converting the lounge to hostel-style lodging would help compensate, although it would not serve families. Some guests now using the tent cabins may prefer inn accommodations, and are staying in tent cabins because they are available when other accommodations are filled. Removing 30 log cabin units would further reduce the opportunity for rustic lodging.

The new restaurant would provide moderately-priced family dining to replace the outdated grill. The new increased restaurant capacity would also reduce waiting, provide more variety of service, and a more efficient facility. The marina operation and boat trailer parking and storage impacts on visitors would be the same as described under the proposal.

Increasing the concessioner-operated RV hookup campsites by 40 units would help satisfy unserved and increasing demand. The NPS campsites would be decreased by 40 sites to maintain the existing total capacity at Colter Bay and more tent campers would be turned away. The RV sewage disposal station would be relocated in the NPS campground improving vehicle access and removing it from nearby campsites. The new office and kiosks at the NPS campground entrance would reduce traffic delay and improve operational efficiency as described under the proposal.

The year-round NPS contact station near the Colter Bay junction would improve visitor service by providing orientation information to travelers before they enter the village development. Emergency services would be readily available, reducing the time now required to report an emergency. Winter visitor orientation would become available on a convenient and regular basis. Summer visitor information service may duplicate some services at the visitor center, although the visitor center is difficult for new visitors to find.

The service station/convenience store would be maintained, as in the proposal, with access from the Colter Bay road, not the parkway. Service convenience and the visual intrusion would be maintained.

Using two existing maintenance buildings for ranger offices and emergency operations would not be as efficient as one new building designed for current use and centralized operations. The increased work and equipment storage space would improve efficiency.

The impacts from the new NPS apartments and concession employee dorm would be similar to the proposal. The beneficial impacts of a new concession/NPS

employee trailer area would be similar to the proposal. However, a portion of the existing area is visible from the NPS campground, and this would continue to be the case with the new facility. The trailer park would also increase housing densities near, and decrease privacy at, the permanent NPS housing area.

New NPS maintenance buildings at the materials storage area would improve operational efficiency by providing a facility with adequate space designed for current needs. The distance to job sites in the Colter Bay Village would be increased. However, this facility also provides maintenance support for other sites in the northern half of Grand Teton National Park.

Electrical generators would provide back-up power during outages, reducing disruption of services and inconvenience.

The concessioner's operational efficiency would be improved by the increased maintenance and storage space provided in existing NPS maintenance buildings.

Modifying roads, intersections, and parking lots would improve the visitor experience by reducing confusion, traffic delays, and minor accidents. The existing parking capacity would be maintained, allowing for some growth in traffic and parking. Intersection redesign would simplify turning traffic, reducing confusion, alleviating congestion, and reducing delays. Traffic circulation and parking lot redesign for the store, visitor center, and marina areas would be similar to the concept described under the proposal, with similar impacts.

Horse concession users would have to travel 4 miles from Colter Bay or 2 miles from Jackson Lake Lodge to reach the new consolidated corral at the night corral site. Impulse traffic and concession revenue may decline. A concession-operated shuttle system would be required. Horseback riders may view less wildlife, and would be some distance farther from the Teton peaks. Hikers on the trails in the Hermitage Point and Christian Pond areas would benefit from less horse traffic, and with less mud, dust, and manure on the trails. There would be fewer complaints by hikers using that area. Maintenance costs would be reduced for hiking trails; however, they would increase for horse trails east of the night corral site.





## CONSULTATION

The NPS consulted with the following agencies, organizations, and individuals during preparation of this document:

Fish and Wildlife Service  
Bureau of Reclamation  
State Historic Preservation Office  
Advisory Council on Historic Preservation  
Grand Teton Lodge Company

The DCP/EA will be sent to selected agencies, interested organizations, and individuals for review and comment. A public meeting will also be held in the park area to accept comments and answer questions during the public review period.



## SELECTED REFERENCES

### BUREAU OF RECLAMATION/NATIONAL PARK SERVICE, U.S. DEPARTMENT OF INTERIOR

- 1984 Final Environmental Impact Statement, Jackson Lake Safety of Dams Project Wyoming - Idaho. Boise, ID and Denver, CO.
- 1987 Memorandum from Acting Regional Director, Pacific Northwest Region, BUR, Boise, to Assistant Manager, Central Team, Denver Service Center, National Park Service, dated May 5, 1987.

### CONNOR, M., F.A. CALABRESE, B. KOLB, L.J. SCOTT, E.C. SVEC, K.L. PIERCE

- 1987 Site Testing at Jackson Lake: A Jackson Lake Archeological Project Interim Report. NPS Midwest Archeological Center, Lincoln, NE.

### FISH AND WILDLIFE SERVICE, U.S. DEPARTMENT OF INTERIOR

- 1982 Grizzly Bear Recovery Plan. Denver, CO.

### INTERAGENCY GRIZZLY BEAR COMMITTEE, U.S. DEPARTMENT OF INTERIOR

- 1986 Interagency Grizzly Bear Guidelines. Interagency Grizzly Bear Team, Cody, WY.

### NATIONAL PARK SERVICE, U.S. DEPARTMENT OF INTERIOR

- 1975 Final Environmental Statement, Master Plan, Grand Teton National Park, Wyoming. Denver Service Center, Denver, CO.
- 1976 Master Plan, Grand Teton National Park, Wyoming. Denver Service Center, Denver, CO.
- 1980 General Management Plan, John D. Rockefeller Jr. Memorial Parkway, Wyoming. Denver Service Center, Denver, CO.
- 1982 "Floodplain Management and Wetland Protection Guidelines." 47 Federal Register 36718, No. 163, August 23, 1982.
- 1985 Statement For Management, Grand Teton National Park. Denver Service Center, Denver, CO.
- 1986 Natural Resources Management Plan and Environmental Assessment, Grand Teton National Park. Grand Teton National Park, Moose, WY.

### SHEA, R.

- 1979 "The Ecology of the Trumpeter Swan in Yellowstone National Park and Vicinity." Unpublished M.S. thesis, University of Montana, Missoula, MT.

WRIGHT. G.A.

1973 "Archeological Surveys of Proposed Construction Areas In Grand Teton National Park." Report on file, National Park Service, Midwest Archeological Center, Lincoln, NE.



## PLANNING TEAM

### CORE TEAM

Richard Alesch, Planner/Project Manager, Denver Service Center (DSC)  
Larry Knowles, Landscape Architect, DSC  
Bill Conrod, Natural Resource Specialist, DSC  
Robert Yearout, Concessions Analyst, DSC  
Rick Lasko, Landscape Architect (Coop Student), DSC  
Doug DeNio, Sanitary Engineer, DSC  
Tom Busch, Architect, DSC  
Jack Stark, Superintendent, Grand Teton National Park (GRTE)  
Wayne Gardner, Regional Office Liaison, RMRO

### CONSULTANTS

Robin Gregory, Landscape Architect, GRTE  
Doyle Nelson, North District Ranger, GRTE  
Edna Good, Concessions Specialist, GRTE  
Jack Wendleton, Civil Engineer, DSC  
Clay James, General Manager, Grand Teton Lodge Company  
Bill Cottrill, Traffic Engineer, DSC  
Marshall Gingery, Assistant Superintendent, GRTE  
Roger Haney, Chief of Maintenance, GRTE  
Dr. Michael G. Schene, Regional Historian, RMRO  
Dr. Adrienne Anderson, Regional Archeologist, RMRO  
Douglas Barnard, Chief Park Ranger, GRTE  
Bob Wood, Resource Management Specialist, GRTE  
Pete Heyden, Aquatic Biologist, GRTE  
Design Workshop, Inc. (3-D computer simulation services)



## APPENDIX A

### COLTER BAY ARCHITECTURAL GUIDELINES

Although the existing Colter Bay structures do not reflect one distinct architectural style, there are some unifying characteristics. In general, the structures are gable-roof, single-story frame buildings. They generally have wood exteriors with a brown stained or painted finish. There are some exceptions, but most structures are unobtrusive and blend effectively with the natural surroundings. The architectural consistency developed consciously and partially out of necessity.

The similarity among existing structures at Colter Bay can be further defined, and a desirable architectural character for new construction established. By respecting these design guidelines, new development will be compatible with the existing natural and built environment. However, these guidelines do not dictate a rigid architectural style, so the potential for contemporary new design is not stifled. Following are guidelines that should be used to prepare and evaluate architectural designs for Colter Bay. They may also be applied to new architecture at Jackson Lake Lodge where appropriate. The guidelines are most critical for buildings in, or visible from, public use areas, but also should be applied to other administrative buildings as appropriate.

#### Site

New buildings should be sited so that existing significant views or vistas are preserved. For example, a structure should be placed at the edge of a clearing rather than in a clearing; on the brow of a hill rather than at its summit. New structures should take advantage of available views, but also consider sight lines back to the structure. Placing new construction between an established or potential approach and a significant resource should be avoided. New buildings should be sited to preserve views from the existing structures. Existing natural vegetation should be used to screen buildings, especially any unsightly service areas.

#### Mass

Existing Colter Bay buildings have a horizontal massing. New structures should be low-profile, consistent with the existing architectural character. Single-story structures are generally preferred. Two stories are acceptable in areas where other buildings are two stories (e.g., concession employee dorms), or where site constraints dictate multi-stories, but a horizontal mass should still be maintained. Roofs should have a moderate pitch and gable design. Steeply pitched or flat roofs should be avoided for aesthetic and functional reasons. Gable roofs are preferred to shed heavy snow and because the sloping shape reflects the surrounding trees.

#### Rhythm

Rhythm is created by alternating solids and voids in the structure. All buildings, in their simplest form, are a pattern of solids (walls) and voids (windows and doors). To be compatible with the existing built environment, a

rhythm similar to the existing construction should be repeated in any new buildings.

### Texture

Different building materials have different textures, both visual and tactile. Stone and wood have natural textures; however, wood is a warm texture and stone is cool. The difference is even more distinct if the wood is rough sawn and the stone is polished. Natural textures should be used in any new construction at Colter Bay; rough wood and stone are preferred. Brick masonry, stucco, and aluminum siding should be avoided, especially for structures exposed to public view. Excessive smooth textures should be avoided in any new construction, with one exception. Glass, when used properly, can open the structure up to the surrounding environment thereby creating a more natural feel. Metal, asphalt, and wood are acceptable roofing materials.

### Color

Colors are a critical element for compatible design. They should be selected to blend with the existing structures and the natural surroundings. Neutral earth-tones similar to existing brown colors or unfinished natural surfaces should be used.



## Appendix B: Colter Bay/Jackson Lake Lodge Development Cost Estimate Details

Item	Proposal	Cost (in Thousands)		Alternative A		Cost (in Thousands)		Alternative C		Cost (in Thousands)	
		GTLC	NPS	Reduce facilities		GTLC	NPS	Year-round use /major redesign		GTLC	NPS
Lodging	Rehabilitate /redesign										
	Construct 60-unit inn, 30,180 s.f.	2000		Remove 40 tent cabins, 384 s.f. ea.		10		Construct 100-unit inn, 43,000 s.f.		3000	
	Paved parking, entrance rd, 6,533 s.y.		172	Obliterate pavement, restore, 3,333 s.y.			4	Paved parking, entrance rd, 16,754 s.y.			549
	Water line, 8", 900 l.f., 1 meter,			Remove 12 cabins, 384 s.f. ea.	4,608 s.f.	5		Obliterate pavement, restore site,			
	3 hydrants		81	Subtotal		15	4	9,643 s.y.			9
	Sewer line, 8", 1,700 l.f., 4 manholes		89					Water line, 8", 1,300 l.f., 1 meter,			124
	Electric cable, underground 400 l.f.,							3 hydrants			
	1 meter		9					Sewer forcemain, 4", 3,400 l.f., 1 lift			252
	Telephone, buried conduit		2					station			22
	Enclose 32 tent cabins, 384 s.f. ea.,							Sewer line, 6", 300 l.f., 3 manholes			31
	12,288 s.f.	246						Electric cable, underground 1,500 l.f.,			3
	Remove 40 tent cabins, 384 s.f. ea.,	10						1 meter			
	Convert guest lounge to hostel,	43						Transformer telephone			
Food Service	1,725 s.f.	8						Remove 72 tent cabins, 384 s.f. ea.		18	
	Remove 20 cabins, 384 s.f. ea.		35					Remove 30 cabins, 384 s.f. ea.		12	
	Obliterate pavement, restore site,		5					Convert guest lounge to hostel, 1,725 s.f.		43	
	3,911 s.y.		393					Subtotal		3073	990
	Paved road, 578 s.y.										
	Subtotal	2307									
	Inn restaurant, 90-seat, 3,000 s.f.	450		Remodel grill to fast food restaurant,		77		Fast food restaurant, 1,800 s.f.		360	
	Grease trap		8	1,920 s.f.		77		Connections for water, sewer, electric,			
	Remodel restaurant building, 7,570 s.f.	303		Subtotal				and telephone			26
	Subtotal	753						Inn restaurant, 110 seat, 3,700 s.f.		600	
								Remodel restaurant, 5,650 s.f.		226	
								Remodel grill to bar, guest lounge &			
								offices, 1,920 s.f.		77	
								Grease traps (2)			16
								Subtotal		1263	52
Marina											
	Enlarge marina building, 600 s.f.	54		Eliminate marina facilities			7	Enlarge marina building, 600 s.f.		54	
	Boat slips, 20	30		Subtotal			7	Boat slips, 20		30	
	Relocate 40 slips, 40 buoys	16						Relocate 40 slips, 40 buoys		16	
	Boat pumpout	21						Boat pumpout		21	
	Subtotal	121						NPS Boathouse, 780 s.f.			67
								Subtotal		121	67

Campgrounds Summer	Office/kiosk, 300 s.f. Pavement, 356 s.y.	70 12	Convert to self-serve, eliminate 50 sites	13	Office, 600 s.f., 2 kiosks @ 44 s.f. ea Pavement 978 s.y.	160 33
	Trailer dump station	46	Obliterate trailer dump station, restore site, 89 s.y.	8	Trailer dump stations (2)	92
	Obliterate dump station, restore site 89 s.y.	8	Remove kiosk, 44 s.f.	<u>1</u> 22	Obliterate dump station, restore site, 89 s.y.	8
	Paved parking, entrance road, 267 s.y.	9			Paved parking, entrance 667 s.y.	22
	Obliterate pavement, restore site, 844 s.y.	8			Sewer line, 6", 403 l.f., 2 manholes	31
	Remove house, 2,250 s.f.	7			Connections for water, sewer, electric, and telephone	26
	Sewer line, 6", 600 l.f. 2 manholes	28			Redesign group campground, paved parking, 4,888 s.y.	160
	Connections for water, sewer, electric and telephone	49			Obliterate pavement, restore site, 7,910 s.y.	72
	Redesign group campground, paved parking, 2,667 s.y.	88			Obliterate campground loop and 2,355 s.y., 40 sites	22
	Obliterate pavement, restore site 1,111 s.y.	<u>10</u> 335			Expand R.V. campground by 40 sites, 9,977 s.y. pavement	328
Subtotal					Sewer line, 6" 400 l.f., water connection for dump station	13
Winter	No action	0	Discontinue winter camping	0	Connections, 40 for water, sewer electric in R.V. campground	<u>66</u> 1033
					Subtotal	
					Connections, 37 for water, sewer, electric in R.V. campground	145
					Sewer line, 6", 1,100 l.f.	86
Information/ Orientation					Water line, 8", 850 l.f., 2", 1,800 l.f.	<u>76</u> 307
					Subtotal	
	Improving signing	<u>2</u> 2	No action		Contact station, 1,300 s.f.	255
	Subtotal				Paved parking & entrance, 1,511 s.y.	50
Long-term Boat Trailer Storage					Water line, insulated, 6", 200 l.f.	9
					Connections for water, sewer, electric, telephone	<u>26</u> 340
					Subtotal	
	Chain fence, 6' tall, 1,288 l.f.	<u>27</u> 27	Discontinue	0	Chain fence, 6' tall, 1,288 l.f.	<u>27</u> 27
Service Stations					Subtotal	
	Redesign pathway station circulation				Redesign pathway station circulation	
	1,733 s.y. pavement	56	Remove pathway station, 1,755 s.f. Obliterate pavement, restore site	8	1,733 s.y. pavement	56
	Obliterate pavement, restore site, 444 s.y.	<u>4</u> 60	2,489 s.y.	<u>22</u> 30	Obliterate pavement, restore site, 444 s.y.	<u>4</u> 60
Subtotal			Subtotal		Subtotal	

Ranger Office/ Fire Station	Office/fire station, 6,250 s.f. Paved parking, entrance, 933 s.y. Sewer lift station, forcemain, 4", 300 l.f. Sewer line, 6", 350 l.f. Connections for water, sewer., electric and telephone Subtotal	736 30 14 16 <u>26</u> 822	No action	0	Remodel 2 maintenance buildings, 4,200 s.f. Subtotal	<u>165</u> 165

NPS Housing	Apartments, 1-story with rec hall 23,500 s.f. total Paved parking & entrance road, 2,089 s.y. Obliterate pavement, restore site, 5,288 s.y. Water line, 8", 750 l.f., fire hydrants (3) Water line, 6", 200 l.f. Sewer line, 6", insulated 250 l.f., manholes (3) Connections for water, sewer, electrical and telephone Owner-occupied trailer spaces (30), compl. Bathhouse, 750 s.f. Subtotal	2155 68 48 59 10 20 26 472 197 3055	Apartments, 2-story, 20,000 s.f. total Paved parking & entrance, 2,089 s.y. Obliterate pavement, restore site 5,288 s.y. Remove N.P.S. trailers Subtotal	1834 68 48 13 <u>1963</u>	Apartments, 2-story, 20,000 s.f. total Community building, 5,000 s.f. Paved parking, entrance road, 4,000 s.y. Remove N.P.S. trailers, (20) Sewer line, 6", insulated 200 l.f., manholes (4) Water line, 8", insulated 750 l.f., fire hydrants (3) Connections for water, sewer, electric, and telephone Subtotal	1834 590 131 13 46 69 <u>26</u> 2709

Concessioner Housing	Dorm, 2-story, 9,000 s.f. total Paved parking, 1,911 s.y. Water line, 8", 400 l.f. Connections for water, sewer, and electric Trailer area, 120 sites, complete Connection to water, sewer, electrical, and telephone Obliterate 77 trailer sites and restore site 6,444 s.y. Paved parking and access road, 5,199 s.y. (Lodge dorms) Subtotal	720 63 18 26 1200 34 59 <u>170</u> 1,954 336	Jackson Lake Lodge dorm area - paved parking, access, 5,199 s.y. Subtotal	170 <u>170</u>	Dorm, 2-story, 9,000 s.f. Paved parking, 2,044 s.y. Obliterate paving & restore site, 444 s.y. Water line, 8", 400 l.f. Connections for water, sewer, and electric Expand trailer area by 108 sites Connections to water sewer, electrical, and telephone Obliterate paving and restore site, 5,644 s.y. Paved parking and access road, 6,089 s.y. (Lodge dorms) Subtotal	720 67 4 18 26 1080 34 51 <u>199</u> 1834 314

NPS Maintenance Area	Flammable storage building, 500 s.f.	79	Flammable storage building, 500 s.f.	79	Shops, heated, 15,000 s.f.	1965
	Remodel fire station to maintenance	59	Subtotal	79	Storage, covered, unheated, 6,500 s.f.	426
	1,500 s.f.	138			Paved maintenance yard - 14,840 s.y.	
					fence - 835 l.f.	508
					Storage, open, unpaved and un-	
					covered, fence - 1,274 l.f.	30
					Paved entrance road, 4,444 s.y.	145
					Water line, 6" insulated - 1,100 l.f.	
					fire hydrants -(3)	79
					Septic tank - 2,000 ga. leach	
Concessioner Maintenance Area					field - 500 l.f.	20
					Sewer line, 6" insulated - 350 l.f.,	
					manholes - (2)	18
					Electrical line, buried - 2,500 l.f.,	
					transformer	47
					Telephone, emergency power generator	26
					Subtotal	3264
Circulation/ Parking	Merchandising storage building,		Convert space in lodge	0	Remodel portion of NPS maintenance	
	5,500 s.f.	400			bldg. to merchandising, storage,	
	Subtotal	400			5,500 s.f.	165
					Subtotal	165
Horse corrals	Village parking access, 12,932 s.y.	423	Paved parking, access, 3,778 s.y.	124	Paved parking, access, 14,177 s.y.	465
	Obliterate pavement, restore	143	sites, 8,266 s.y.	76	Obliterate pavement, restore sites,	
	sites, 15,554 s.y.				29,553 s.y.	270
	Paved walks, 7,520' x 5', trails		Relocate Swan Lake trailhead		Paved walks, 5,760' x 5', trails	
	9,200' x 2'	82	222 s.y., obliterate and restore	7	12,400' x 2'	72
	Subtotal	648	Subtotal	207	Subtotal	807
	Widen paved road to corral, 889 s.y.	29	Remove corral & restore site, 3,400 s.y.	17	Remove corral & restore site, 3,400 s.y.	17
	Relocate horse trail away from		Remove barn, bunk house, office, and		Remove barn, bunk house, office, and	
	sewage lagoons, 3,200' x 2	4	pit toilet	21	pit toilet	21
	Jackson Lake Lodge, night		Jackson Lake Lodge, pave existing		Jackson Lake Lodge night corral,	
	corral, remove and restore		bus parking, 584 s.y.	19	wrangler housing, 680 s.f.	40
	site, 8,310 s.y.	42	Fence horse trail between day and		Relocate office, tack bldg., 1,032 s.f.	10
	Lodge corral, paved bus parking,		night corrals, 11,600 l.f.	93	Barn, 3,600 s.f.	70
	222 s.y.	8	Subtotal	57	Paved entrance road and parking,	
	Fence, 490 l.f. at corral	9			6,310 s.y.	207
	Subtotal	83			Gravel road, 222 s.y.	4
					Obliterate dirt road and restore	
					site, 1,555 s.y.	13
					Water line, 2" - 500 l.f., septic	
					tank, leach field	39
					Electric generator, telephone	67
					Day corral, remove fence, 660 l.f.,	
					and concrete feeding pad, 144 s.y.	3
					Remove corral and restore site,	
					1,600 s.y.	14
					Subtotal	385



Utilities Common To Alternatives	Rehabilitate structural interior of 500,000 gal. water tank Water line, 10" - 5,000 l.f., 8" - 2,500 l.f. insulated	Rehab. structural interior of 500,000 gal. water tank Water line, 10" - 5,000 l.f., 8" - 2,500 l.f. insulated	Rehab. structural interior of 500,000 gal water tank Water line, 10" - 5,000 l.f., 8" - 2,500 l.f. insulated
	98	98	98
	721	721	721
	77	77	77
	283	283	283
	84	84	84
	27	27	27
	58	58	58
	35	35	35
	126	126	126
	524	524	524
	2033	2033	2033
	Concessioner Grand Total	Concessioner Grand Total	Concessioner Grand Total
	N.P.S. Grand Total	N.P.S. Grand Total	N.P.S. Grand Total
	5054	185	6576
	8340	4572	12543

Notes:

1. GTLC = Grant Teton Lodge Company construction costs
2. Actions refer to Colter Bay except as noted
3. Cost estimates for N.P.S. development are class "C" in gross dollars, which includes construction costs, construction supervision, and contingencies (construction cost x 1.31)
4. Alternative B is the "No action" alternative, which would have no development cost
5. Funding responsibilities (GTLc vs. NPS) are tentative and subject to further negotiations



As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The Department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

NPS D-145 August 1988

